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Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes

Note by the Secretariat

Pursuant to Human Rights Council resolution 27/23, the Special Rapporteur has prepared guidelines for good practices in relation to the human rights obligations related to the environmentally sound management and disposal of hazardous substances and wastes. The guidelines are intended to help States, businesses, civil society, trade unions and other key actors identify and address key problems that give rise to human rights abuses due to toxics. The guidelines are not intended to be a comprehensive compilation of practices by State and non-State actors, given the dynamism of approaches to the issue and the limitations of space in the report.

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I. Introduction

1. A long-standing request of the Human Rights Council, predating the current Special Rapporteur, is a report on good practices in relation to the human rights obligations related to the environmentally sound management and disposal of hazardous substances and wastes (hereinafter, such substances and wastes are also referred to as "toxics"[1]).

2. The Special Rapporteur wishes to point out that, due to legal developments, political shifts and progress in science, practices in the context of toxics evolve constantly. Accordingly, the present report is not intended to be an exhaustive compilation of good practices. Rather, the Special Rapporteur presents guidelines that can inform good practices of States and businesses in relation to toxics. The report builds on a number of expert consultations held by the Special Rapporteur in 2015 and 2016. The Special Rapporteur has also addressed a questionnaire to States and non-State entities, including businesses and civil society representatives, which remains available online in English, French and Spanish.[2] The Special Rapporteur is grateful for the submissions received (30 in total).

3. Due to space limitations and the volume of input received, the Special Rapporteur does not make reference in the present report to any specific input. He continues to encourage States and all other interested stakeholders to submit their input. Replies to the questionnaires will be accepted on an ongoing basis and will inform an online repository to facilitate knowledge-sharing and exchange.

II. Duties of States

A. Respect, protect and fulfil

4. States have an obligation to respect, protect and fulfil recognized rights implicated by the production, use, release, storage and disposal of hazardous substances and wastes. As such, States must:

(a) Refrain from unjustifiable interference with the enjoyment of the rights implicated by toxics;

(b) Protect against abuses by non-State actors, particularly businesses, which requires States to enact and enforce necessary laws and policies on toxics;

(c) Give sufficient recognition of the human rights implications of toxics in laws and policies, and take positive action to facilitate the realization of human rights implicated by toxics, including through budgetary allocations.

5. Furthermore, States must recognize their obligations to respect, protect and fulfil human rights extraterritorially. In fulfilling their obligations, States must refrain from discrimination and ensure substantive equality.[3]

6. Numerous civil, political, economic, social and cultural rights are implicated by toxics. Those rights are interlinked, interdependent and indivisible. As such, in the present section, the Special Rapporteur does not refer to all the rights implicated. For example, while the rights to food, to water and to adequate housing are not discussed specifically,

[1] Consistent with the previous reports of the Special Rapporteur and his predecessors, hazardous substances and wastes are not strictly defined; they include, inter alia, toxic industrial chemicals and pesticides, pollution, contamination, explosive and radioactive substances, certain food additives and various forms of waste. For ease of reference the Special Rapporteur refers to hazardous substances and wastes as "toxics", but the term as used in the report includes non-toxic but hazardous substances and wastes as well.

[2] See www.ohchr.org/EN/Issues/Environment/ToxicWastes/Pages/Environmentallysoundmanagementdisposal.aspx.

[3] Modified from a framework proposed by the Special Rapporteur on the human right to safe drinking water and sanitation (A/HRC/27/55).

they should be borne in mind, as appropriate, in the context of all considerations discussed in the present report.

Life

7. States must prevent arbitrary deprivation of life resulting from toxics. In line with the concept of "inherent right to life", States are required to adopt positive measures to protect that right,[4] including effective measures to prevent and safeguard against hazards that threaten the lives of human beings.[5] States must take all possible measures to reduce infant mortality and to increase life expectancy, especially in adopting measures to eliminate malnutrition and epidemics.[6]

8. Pollution is estimated to be one of the leading causes of death and disease worldwide.[7] Exposure to pollution and toxic chemicals is dramatically contributing to infant mortality and reduced life expectancy. The World Health Organization (WHO) estimates that in 2012, the deaths of 12.6 million people (nearly one in four of the total deaths) were attributable to an unhealthy environment, including exposure to toxic and otherwise hazardous substances.[8] Of those deaths, 8.2 million were attributable to non-communicable diseases linked to exposure to toxics. However, owing to information gaps, the figure represents an underestimation; the adverse impacts of only a few substances are accounted for, in a universe of thousands of hazardous substances released by human activities.

Health

9. Everyone has the right to the highest attainable standard of physical and mental health,[9] and thus to be protected from toxic chemicals, pollution and contamination. States, in their obligation to protect the right to health, must prevent and reduce the population's exposure to hazardous substances and wastes that have a direct or indirect impact on human health.[10] States must elevate standards of protection as "expeditiously and effectively as possible"[11] to protect the right to health.

10. The right to health, and the corresponding obligation of States to protect against toxic exposure, is inextricably linked to the rights to safe food, safe water and adequate housing. To this end, in accordance with article 24 of the Convention on the Rights of the Child, on the child's right to the enjoyment of the right to health, States are explicitly required to ensure the provision of adequate nutritious food and clean drinking water, taking into consideration the dangers and risks of pollution and contamination.

11. Exposure to toxic pollution through air, water and food is contributing to an ongoing and increasing global public health crisis of non-communicable diseases. Rates of cancer, chronic respiratory illness, stroke, and heart and other non-communicable diseases have dramatically increased in recent decades. In addition, toxic exposures are linked to birth defects and various mental health impacts, such as reduced intelligence. Increased rates of

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[4] See Human Rights Committee, general comment No. 6 (1982) on the right to life, para. 5.

[5] See E/CN.4/Sub.2/1994/9 and Corr.1, para. 175.

[6] See Human Rights Committee, general comment No. 6, para. 5. While the Committee states that it would be "desirable" for States to take all possible measures, the evidence is now much stronger that States must take all possible measures to respect, protect and fulfil.

[7] See www.commissiononpollution.org/about.

[8] See www.who.int/mediacentre/news/releases/2016/deaths-attributable-to-unhealthy-environments/en/.

[9] See Universal Declaration of Human Rights, art. 25 (1); Constitution of the World Health Organization; International Covenant on Economic, Social and Cultural Rights, art. 12; Convention on the Rights of the Child, art. 24 (see also art. 17).

[10] See Committee on Economic, Social and Cultural Rights, general comment No. 14 (2000) on the right to the highest attainable standard of health, para. 15.

[11] Committee on Economic, Social and Cultural Rights, general comment No. 3 (1990) on the nature of States parties' obligations.

disease and disability clearly point to environmental contributions.[12] Reductions in exposure are demonstrated to lead to improved health outcomes.[13]

Physical and mental integrity

12. In order to uphold the right to physical and mental integrity, States are required to take positive measures to protect everyone from exposure to hazardous substances. This right encapsulates the right of all human beings, including children, to autonomy and self-determination over their own body; a non-consensual intrusion upon the physical or mental integrity of the person could be considered a human rights violation.

13. This right is well established under international human rights law, including all regional human rights instruments,[14] although underrecognized in the context of toxics. For example, States must protect children from all forms of physical or mental violence, injury or abuse, and neglect or negligent treatment.[15] Exposure to hazardous substances can be a violent act. In accordance with the Convention on the Rights of the Child (art. 37), the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (art. 2) and the International Covenant on Civil and Political Rights (art. 7), States are required to protect against torture or other cruel, inhuman or degrading treatment or punishment.[16]

14. While the right to physical and mental integrity has traditionally been raised in connection with incarceration, interrogation and medical experimentation, this right is implicated by exposure of humans to toxics. Although cases of acute poisoning and high levels of intoxication present an unquestionable violation of the right to physical integrity, the right also extends to protection against chronic, low-level exposure to toxic substances.[17] Today, children are born "pre-polluted" by dozens, if not hundreds, of toxic chemicals.[18] Every day, everyone is chronically exposed to a multitude of hazardous substances in food, water and air, without their consent. In some areas, typically lower-income communities, exposure rates are extreme.

Non-discrimination

15. States must never discriminate on the basis of income, age, race, colour, ethnicity, gender, religion, origin, disability, or other status. Equality and non-discrimination is fundamental to human rights law.[19] All individuals are equal as human beings and, by virtue of this and the inherent dignity of each person, must have equal protection from toxics.

16. The adverse impacts of toxics on the poor, the young, older persons, minorities, indigenous peoples and other vulnerable groups are unequal, and the different genders are affected in different ways (see section II.B below). In addition to double standards of protection within countries, there are double standards of protection between countries, particularly between developing and industrialized countries, which are often exploited by businesses with global supply and value chains. The transfer of toxic production and disposal processes to the marginalized or the less fortunate is of grave concern.

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[12] See, for example, www.epa.gov/ace.

[13] See, for example, A/HRC/33/41, para. 66 (citing S.D. Grosse and others).

[14] See, for example, the American Convention on Human Rights, art. 5 (1); the Charter of Fundamental Rights of the European Union, art. 3; and the African Charter on Human and Peoples' Rights, art. 4.

[15] Convention on the Rights of the Child, art. 19. See also Committee on the Rights of the Child, general comment No. 4 (2003) on adolescent health and development in the context of the Convention, para. 8.

[16] See also Human Rights Committee, general comment No. 20 (1992) on the prohibition of torture or other cruel, inhuman or degrading treatment or punishment, paras. 2 and 5.

[17] See A/HRC/33/41, para. 34.

[18] Ibid., para. 5.

[19] See, for example, Universal Declaration of Human Rights, art. 2.

Accountability, justice and remedy

17. Accountability is a fundamental principle of human rights. States and other duty bearers must be answerable to rights holders for the observance of human rights implicated by toxics. In this regard, duty bearers must comply with the legal norms and standards enshrined in international human rights instruments. Every rights holder is entitled to initiate proceedings for appropriate redress before a competent court or other adjudicator in accordance with the rules and procedures provided by law. States must ensure access to justice and provide effective remedies and restitution to victims of those violations occurring as a result of exposure to hazardous chemicals.[20]

18. Most victims of toxics have no access to justice and no semblance of an effective remedy, and most perpetrators of violations relating to toxics are not held accountable. The burden of proving the cause of their illness, the lack of information, the insurmountable costs of judicial remedy, corporate structures, global and devolved supply chains and other factors all obstruct the path to justice and remedy for most victims (see section IV below).

Information

19. To protect human rights affected by toxics, States are duty-bound to generate, collect, assess and update information; effectively communicate such information, particularly to those disproportionately at risk of adverse impacts; ensure confidentiality claims are legitimate; and engage in international cooperation to ensure that foreign Governments have the information necessary to protect the rights of people in their territory.[21]

20. The enjoyment of the right to information is critical in the context of toxics. Information on toxics is essential in order to prevent adverse impacts, to ensure the realization of freedom of expression and to enable individuals and communities to participate in decision-making processes and to seek and obtain remedy. Health and safety information about toxic chemicals must never be confidential.[22] Information must be available, accessible, functional and consistent with the principle of non-discrimination in order for human rights to be respected, protected, enjoyed and fulfilled.[23] Despite notable improvements in many countries over recent decades, the right to information remains insufficiently realized in the area of hazardous substances and wastes, particularly with respect to protecting the most vulnerable from adverse impacts of exposure, whether from consumer products, at the workplace or via food, water, air or other sources.[24]

Participation

21. States have an obligation to realize the right to meaningful participation.[25] Governments must facilitate the right to participation in environmental decision-making regarding toxics.[26]

22. Every citizen has the right and should have the opportunity to take part in the conduct of public affairs, including in relation to toxics, directly or through freely chosen representatives. The critical importance of public participation in the management of toxics is also recognized in international environmental agreements.[27]

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[20] See E/CN.4/2006/42, para. 45.

[21] See A/HRC/30/40, para. 99.

[22] See the Stockholm Convention on Persistent Organic Pollutants, the Minamata Convention on Mercury and the Dubai Declaration on International Chemicals Management.

[23] See A/HRC/30/40.

[24] Ibid.

[25] Universal Declaration of Human Rights, art. 21; International Covenant on Civil and Political Rights, art. 25. The Declaration on the Right to Development, which has significantly broadened the meaning of participation, emphasizes in its article 2 (3) that participation is to be active, free and meaningful.

[26] A/HRC/7/21.

[27] See, for example, Rio Declaration on Environment and Development, principle 10; Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters; and Dubai Declaration on International Chemicals Management.

23. Although certain States have taken measures to increase public participation in decision-making on the issues of toxics, levels of social unrest driven by concerns about air pollution, water and food contamination and toxic consumer products suggest further improvements are necessary in many States. Concerned communities have complained that their views are not taken into account, that information, particularly on health impacts, is unavailable, inaccurate or too technical, and that processes are not reasonably accessible.

B. Protect the most vulnerable

24. A human rights-based approach to hazardous substances and wastes, including pollutants, toxic industrial chemicals and pesticides, requires a specific focus on the protection of those most vulnerable or at risk: children, the poor, workers, persons with disabilities, older persons, indigenous peoples, migrants and minorities, while taking into account gender-specific risks. Designing laws and policies to protect those most at risk has been shown to have a ripple effect for the broader community. States must ensure that laws, policies and institutions aimed at assessing and mitigating the potential impacts of toxics are based on the needs of the most vulnerable.

Low-income communities

25. Everywhere, the poor bear the brunt of inaction on toxic pollution and other threats from toxics. In all countries pollution disproportionately kills the poor, with over 90 per cent of the disease burden from pollution falling on residents of low- and middle-income countries.[28] This is in large part due to the international transfer of polluting industries through globalized supply chains, from chemical and steel manufacturing and the extraction of oil, gas, metals and minerals to the exponential increase in pesticide use and the "recycling", incineration and disposal of waste, such as electronics, plastics, batteries and end-of-life ships.[29]

26. Growing evidence shows that in countries of all levels of income, polluting industries are disproportionately located in poor communities. People in poverty are more likely to reside near toxic contamination and sources of pollution and to consume toxic products. Poorer communities are also less likely to be successful in defending their rights against businesses, facing an absence of information, power asymmetries, difficulties in securing legal representation and complicating variables that make correlations between exposure and impact more difficult. Malnutrition among low-income communities can also exacerbate the health impacts of exposure to hazardous substances. Many of the groups described below are found in low-income communities, which further elevates their risk.

27. Internationally, low- and middle-income countries are at grave risk owing to the transfer of polluting industries and toxic products from wealthier countries. Many factors have led to this situation, including a deficiency in global standards and strong pressure driven by private interests. Businesses with global supply and value chains continue to be implicated in human rights abuses related to toxics in low- and middle-income countries.

Children

28. WHO estimates that 1.7 million children under the age of 5 die each year as a result of toxic exposure and other aspects of an unhealthy environment.[30] Children everywhere, from all backgrounds and incomes, are exposed to dozens if not hundreds of toxic substances during critical periods of development, including while in the womb and through breast milk. Children in low-income and minority communities are exposed at

[28] See www.commissiononpollution.org/about.

[29] See, for example, Qiang Zhang and others, "Transboundary health impacts of transported global air pollution and international trade", *Nature*, vol. 543 (March 2017). Available at www.nature.com/nature/journal/v543/n7647/full/nature21712.html.

[30] See www.who.int/mediacentre/news/releases/2017/pollution-child-death/en/.

significantly higher levels. Today, paediatricians refer to the impacts of toxic chemicals and pollution on children as a "silent pandemic".[31]

29. The timing of exposure is a critical factor in whether exposure to toxic chemicals may result in adverse impacts on the right to life or health. Children are not little adults. They have far greater sensitivity than adults at both high and low levels of exposure. Children also generally have higher levels of exposure than adults to toxic chemicals in their environment. Adverse health impacts can be irreversible and can even be passed down from one generation to the next.[32] Risk assessments and subsequent mitigation measures by regulators must adequately account for the elevated risk of adverse impacts in young children exposed to hazardous substances.

30. The incidence of childhood cancer has risen during periods of rapid increase in the use of industrial chemicals; the higher incidence cannot be explained by genetics or lifestyle choices alone.[33] Moreover, the incidence of testicular, breast and other cancers that may be triggered by childhood exposure to toxics has also increased in recent decades. Six hundred thousand children develop irreversible intellectual disabilities every year from lead poisoning alone.[34] Beyond lead, an untold number of neurotoxicants are believed to be eroding intelligence and contributing to developmental abnormalities and behavioural disorders. Type 2 diabetes, previously seen only in adults, is occurring increasingly frequently in children; chemicals linked to obesity are believed to be a contributing factor.[35] Diabetes is predicted to be the seventh leading cause of death by 2030.[36] Asthma is one of the most common chronic diseases among children, with rates rising by 50 per cent every decade on average.[37]

31. States must prevent childhood exposure to toxic substances and pollution.[38] This obligation flows naturally from children's right to physical integrity and from the fact that such exposure makes it nearly impossible to realize every child's right to the highest attainable standard of health, to survival and to maximum development, given their extreme sensitivity to pre- and postnatal exposure. A child's best interests should guide the interpretation and implementation of the Convention on the Rights of the Child. Those interests are best served through the prevention of exposure. Children have the right to demand that the State take their best interests into account in all actions relating to toxics. The inability to ensure that a child's views are heard prior to exposure to hazardous substances and the impossibility of realizing a truly effective remedy after exposure reinforce the duty of States to prevent exposure.

Workers

32. In 2013, the International Labour Organization (ILO) estimated that nearly 2 million workers per year — between 3 and 4 workers per minute — die prematurely from occupational diseases linked to toxic chemicals.[39]

33. Laws in most countries permit workers to be exposed to levels of toxic chemicals hundreds of times higher than the exposure allowed among the general public and often do not take into account real-world exposure scenarios or gender-specific and other sensitivities. Workers are frequently unable to exercise their right to freedom of association and collective bargaining, which is necessary to secure a healthy workplace.

34. Workers should have the right to remove themselves from conditions they believe are unsafe, and the right to information regarding occupational health and safety. However,

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[31] See A/HRC/33/41, para. 4 (citing Philippe Grandjean and Philip J. Landrigan).
[32] Ibid., para. 2.
[33] Ibid., para. 9 (citing the National Cancer Institute of the United States of America).
[34] Ibid., para. 9 (citing WHO).
[35] See www.psr.org/assets/pdfs/obesity-chemical-causes.pdf and http://content.healthaffairs.org/content/30/5/842.full.
[36] WHO, "Diabetes", fact sheet No. 312 (2016).
[37] WHO, "Bronchial asthma", fact sheet No. 206 (2015).
[38] A/HRC/33/41.
[39] ILO, *The Prevention of Occupational Diseases* (2013).

necessary information on safety precautions or health risks linked to toxic chemicals is often unavailable or inaccessible to workers. Information may be in a foreign language, and labelled pictures may be indecipherable or too small to be legible. States continue to allow the use of industrial chemicals and pesticides under the presumption that personal protective equipment will be used, and that it will be used as effectively as expected. However, workers often do not have access to necessary protective equipment of reasonable quality, and the conditions under which they are expected to use the equipment are often completely unreasonable; thus, risk assessments are inaccurate. Workers are exposed to substances whose health effects have not been studied adequately. Adverse health impacts from chronic occupational exposure to toxic chemicals may not manifest as a disease for several years. Due to these and other factors, only a small percentage of workers have access to an effective remedy for violations of their rights.

35. Child labourers, female workers, migrant workers and residents of low-income communities are significantly more vulnerable to toxic impacts due to unique sensitivities, cumulative impacts or unequal protections under the law. One of the worst forms of child labour is that in which children work with, or are exposed to any level of, hazardous substances. WHO has published studies showing that children who work with hazardous substances have shorter average lifespans. Children are also at risk through the transmission of their parents' occupational exposures, in particular from their mother while they are in the womb or through breast milk.

36. States must ensure that workers are able to enjoy the right to safe and healthy working conditions.[40] States must protect the right of workers to just, decent and favourable conditions of work by preventing occupational exposure to toxic chemicals, a right that is indivisible from the right to the highest attainable level of physical and mental health and the right to physical integrity.[41] States must ensure that workers have access to information and effective remedy for violations; they must also ensure that migrant workers enjoy the same rights as nationals of the State of employment regarding protection from toxic exposure.[42]

Gender

37. Biological differences between men and women, such as physiological and hormonal differences, create differing susceptibilities to the effects of exposure to toxic chemicals.[43] Women, for example, are more likely to store higher levels of environmental pollutants in their tissues than those found in men. During pregnancy, lactation and menopause, women's bodies undergo changes that may increase their susceptibility to health impacts from toxic exposure. Furthermore, due to differences in social roles, including occupational and household roles, women and men are exposed differently to toxic chemicals with respect to, among other things, the substances encountered and the degree of exposure.

38. Studies show that women's exposure to pesticides can cause miscarriages, premature births, birth defects and low birth weight. Other studies show strong correlations between cancer and various toxic chemicals used in certain cosmetic products and also found in the environment. Studies show that sperm counts and testosterone levels have fallen dramatically among men in industrialized countries since the 1940s, and such decreases have been linked to toxic chemicals.

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[40] International Covenant on Economic, Social and Cultural Rights, art. 7 (b).

[41] Ibid., art. 12 (2) (b) and (c). The Committee on Economic, Social and Cultural Rights has interpreted the right to health, as defined in article 12 of the Covenant, as extending to underlying determinants of health, including healthy occupational and environmental conditions. See the Committee's general comment No. 14, para. 11; see also the Committee's general comment No. 18 (2005) on the right to work, para. 7.

[42] International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families, art. 25.

[43] United Nations Development Programme, *Chemicals and Gender*, Gender Mainstreaming Guidance Series (2011).

Older persons

39. Older persons are at elevated risk of disease resulting from exposure to toxic substances in, among other things, air pollution and following chemical disasters, due to physiological and psychological changes. According to recent figures from WHO, each year 4.9 million adults between the ages of 50 and 75 die prematurely as a result of exposure to an unhealthy environment.[44]

40. The gradual decline in physiological processes, the cumulative effect of lifestyle, occupational and dietary choices and the increase in age-associated diseases and conditions do not only increase the susceptibility of older persons to health problems caused by exposure to hazardous substances, such as air pollutants. These factors also complicate correlation between hazardous exposure and health effects. Furthermore, cognitive impairments can reduce the ability of older persons to recognize, interpret and react to hazardous substances in their environment. Victims may be less likely to pursue legal remedies because of the lengthy process, the efforts required or the complications in establishing correlation. Differences based on race, gender or ethnicity can introduce additional variables. Risk assessments by State regulators often do not adequately account for the elevated risk of adverse impacts among older persons.

Indigenous peoples

41. Indigenous peoples continue to suffer grave rights abuses in connection with the contamination of their lands and territories with pollution from extractive industries, toxic chemicals that migrate long distances via wind and water, and the dumping or leaching of hazardous wastes. High levels of toxic chemicals and pollutants often accumulate in traditional foods of indigenous peoples. Rates of cancer and other adverse health effects have been significantly higher for indigenous communities that must eat, drink and breathe toxic contamination, which in many cases did not originate in their lands or territories. The exact magnitude of the impacts is unknown due to serious deficiencies in health monitoring in many communities. In numerous cases, indigenous peoples have been unable to secure an effective remedy.

42. Indigenous peoples have the right to the conservation and protection of the environment and productive capacity of their lands or territories and resources.[45] This includes the protection of their food, water, air and soil from toxic pollution and contamination. To this end, under article 29 (2) of the United Nations Declaration on the Rights of Indigenous Peoples, States are explicitly required to obtain the free, prior and informed consent of indigenous peoples regarding the storage or disposal of hazardous materials on their lands or territories. Indigenous peoples have the right to demand of States effective measures to ensure that programmes for monitoring, maintaining and restoring health are designed and implemented by those affected by such materials.[46] The Declaration (art. 18) specifically articulates the right of indigenous peoples to participate in decision-making in matters that would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own indigenous decision-making institutions.

Minorities

43. Racial, religious and ethnic minorities, including migrants, are often at elevated risk. Polluting industries, hazardous waste disposal sites, contaminated drinking water and other sources of toxic exposure are often disproportionately located in minority communities. Minority communities have also been housed on sites contaminated with high levels of lead and other toxic substances and wastes. Such communities are often unable to gain access to effective remedy for toxic pollution and contamination.

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[44] See www.who.int/mediacentre/news/releases/2016/deaths-attributable-to-unhealthy-environments/en/.

[45] United Nations Declaration on the Rights of Indigenous Peoples, art. 29 (1).

[46] Ibid., art. 29 (3).

Post-conflict communities

44. Existing laws intended to protect the environment during armed conflict have proven insufficient to prevent serious pollution and other forms of exposure to hazardous substances. Communities in and around conflict zones continue to face substantial legacies of toxic exposure. Furthermore, issues regarding weapons testing, contamination from military bases and other conflict-related sources of pollution and contamination are repeatedly raised by local communities suffering adverse impacts or lacking necessary information. In many cases, such communities are unable to secure an effective remedy.

C. Adopt fundamental approaches

45. Three approaches, described below, have been identified by the international community as being crucial for States to follow in order to avoid adverse impacts related to hazardous substances in products and business activities, particularly on the most vulnerable.

Inherently safer design

46. The best protection of the enjoyment of human rights against the impact of toxics is through prevention of exposure. For example, preventing exposure protects the rights to life, to health, to physical integrity, to dignity and to equality, and averts the difficulty of securing the right of victims to an effective remedy for harm that appears years or decades after exposure.

47. Good practices for the prevention of exposure are already well known. In the hierarchy of hazard controls, or "inherently safer design", the best practice is the elimination of hazards. This is followed by risk mitigation options such as substitution with less hazardous substances and materials, engineering controls, administrative controls and the use of personal protective equipment, in order of most to least effective.[47] Elimination and substitution of hazardous substances is necessary to protect human rights throughout the life cycle of industrial products and processes, to reduce hazardous waste generation, and to enable the best transition to a healthy circular economy. Paying greater attention to elimination and substitution would contribute significantly to alleviating the disproportionate impacts on vulnerable groups.

Life-cycle approach

48. States should take a life-cycle approach to the extraction, production, use, release and disposal of toxics. This may facilitate links between the economic, social and environmental dimensions of business operations throughout the value chain. Such an approach is essential to reducing the toxic footprint of consumption and production and protecting vulnerable groups throughout the life cycles of products, and a key element in ensuring sustainable development.

49. A life-cycle approach takes into account the adverse impacts of a product over its entire life cycle, going beyond a narrow focus on an enterprise's production facilities and processes. A product's life cycle begins with the extraction of raw materials, and includes the energy requirements of that extraction. Materials and energy are then an intrinsic part of production, packaging, distribution, use and maintenance, and eventually recycling, reuse, recovery or final disposal. At each life-cycle stage there is the potential to prevent toxic exposure by ensuring better design and by reducing raw material inputs, hazardous substances in the product, and the toxicity and volume of waste requiring disposal.

Global approach

50. States cannot reasonably expect to respect, protect and fulfil human rights implicated by toxics without a global approach. The issues presented by hazardous

[47] See www.cdc.gov/niosh/topics/hierarchy/.

substances are far too international — involving global supply chains, transnational corporations, foreign investment and transboundary movement of pollution and waste — to be effectively addressed through a nationalistic approach.

51. At present, the issue is predominantly regulated at the global level through a patchwork of treaties for specific issues or chemicals of concern, which leave enormous gaps. A strong and robust global approach to the life cycle of toxics is necessary for the realization of human rights.

52. Certain elements have proven important with respect to increasing the efficiency and effectiveness of treaties. These include: participatory processes; flexibility in developing stronger controls as scientific evidence of threats and impacts develop; trade-related incentives; appropriate timelines for reductions in and elimination of use; independent panels for technology assessments; non-consensus decision-making; compliance mechanisms to ensure accountability; access to adequate financial and other resources to support low-income countries; and transfer of technology.

53. However, provisions for many of the above-mentioned aspects are lacking in current treaties for toxic chemicals and wastes, which hampers the effectiveness and efficiency of the implementation of those treaties. The main concerns are the lack of effective compliance mechanisms and the inadequacy of financial resources and decision-making processes, which impede action at the global level. Regarding occupational safety and health, very few countries have ratified key, albeit outdated, ILO conventions. Among those who have, many are not adequately implementing or enforcing the obligations contained therein.

54. Furthermore, the narrow scope of existing treaties remains a major concern in terms of responding effectively and efficiently to increasing evidence of what in fact constitutes a chemical of global concern. Existing treaties employ an outdated and exceedingly narrow definition of what constitutes a chemical of global concern, the most restrictive criteria being that the substance must travel significant distances via wind and water. Therefore, existing multilateral environmental agreements provide global standards for the production and use of only a few dozen hazardous substances, out of several thousand that are part of today's global economies and are of global concern.

55. Without strong global standards, there will continue to be a significant risk that the most vulnerable people, particularly those in lower-income countries, will become victims of toxic exposure. Global supply chains and trade flows require a different definition of what constitutes a chemical of global concern and a global regime that reflects modern reality.

D. Enact and enforce legislation

56. States must establish legislative and regulatory frameworks to protect human rights from infringement as a result of toxic chemicals and wastes. The failure to enact or enforce laws necessary to prevent the adverse impacts of hazardous substances on, inter alia, the rights to life, to health and to the integrity of the person is a violation of a State's obligations.[48] A life-cycle approach to such frameworks is necessary. States must take steps to effectively regulate the foreign conduct of businesses domiciled or headquartered in their territory in order to protect human rights in other States.[49]

Uphold human rights through national laws

57. States must uphold human rights through legislation to protect them from infringement resulting from toxic working conditions, unsafe consumer products, pollution, contamination and waste. Many States have established constitutional rights and legislation of direct relevance to toxics. Legislation in place covers particular life-cycle stages,

[48] See, for example, Committee on Economic, Social and Cultural Rights, general comment No. 14, para. 51. See also Committee on the Rights of the Child, general comment No. 16.

[49] See, for example, CCPR/C/DEU/CO/6 and CRC/C/CAN/CO/3-4.

different types of substances, different product categories, information requirements and other aspects relevant to the State's duty to protect.

58. However, there is often a disconnect between the standards of protection actually required to uphold human rights and the standards of protection that are established under legislation. There is a need in all countries to better ensure that laws and policies on toxics reflect the State's human rights obligations. This is particularly apparent in view of the inequalities and denial of dignity faced by many of the vulnerable groups described above. The excessive emphasis placed by States on risk to the overall population leaves the most vulnerable suffering disproportionately from toxic exposure.

59. Of significant concern is the number of States that consistently reference their compliance with the narrow patchwork of global treaties for hazardous substances and wastes as evidence that they uphold human rights in that area. As discussed above, existing treaties do not have the appropriate scope to justify such an assertion.

Non-regression and progressive realization

60. Under the principle of non-regression, States must not reduce human rights protection in the area of toxics unless there is strong justification for a retrogressive measure.[50]

61. Furthermore, States must continuously improve the protection of rights against the impacts of toxics, including by compelling businesses to develop safer, healthier products and processes.[51] States must elevate legal standards of protection as "expeditiously and effectively as possible"[52] to protect the right to health, and take "all possible measures to reduce infant mortality and to increase life expectancy".[53] States must have systems in place to generate data to inform themselves of the progress necessary, and report publicly on that progress and challenges. The fact that progressive realization is foreseen for certain rights implicated by toxics "should not be misinterpreted as depriving the obligation of all meaningful content".[54]

Secure compliance and ensure enforcement

62. States must enforce legislation intended to protect human rights implicated by toxics.[55] Effective compliance and enforcement often requires strong mechanisms to ensure cooperation and coordination among public prosecutors and regulatory, inspection and customs officials. Without compliance and enforcement, legislation can be devoid of meaning. Compliance and enforcement are mutually supported by monitoring, empowerment of rights holders, criminal penalties, coordination, and the securing of financial resources, as discussed below.

Leverage financial, human and technical resources for implementation

63. States must fulfil human rights through adequate allocations of budgetary and other resources. The lack of financial and technical resources is often cited as a primary challenge in protecting human rights implicated by toxics. This in part is due to a misperception by States that the cost of action is either unaffordable or greater than the cost of inaction.

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[50] Universal Declaration of Human Rights, art. 30; International Covenant on Civil and Political Rights, art. 5; International Covenant on Economic, Social and Cultural Rights, art. 5; Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights), arts. 17 and 53.

[51] Under the International Covenant on Economic, Social and Cultural Rights, States have a duty to improve all aspects of environmental and industrial hygiene and to prevent, treat and control endemic, occupational and other diseases (art. 12).

[52] Committee on Economic, Social and Cultural Rights, general comment No. 3.

[53] Human Rights Committee, general comment No. 6.

[54] Committee on Economic, Social and Cultural Rights, general comment No. 3, para. 9.

[55] See, for example, Committee on Economic, Social and Cultural Rights, general comment No. 14, para. 51. See also Committee on the Rights of the Child, general comment No. 16.

64. The cost to public resources and individuals of failing to restrict and ban hazardous substances can be staggering, and can impede efforts to lift people out of poverty and make meaningful progress on development.[56] The economic benefits of stronger measures to protect health against the effects of toxic pollution and contamination have been shown in several instances to be greater than the cost of implementing such measures.

65. Recent initiatives have highlighted the utility of cost-recovery mechanisms in helping government regulators to ensure appropriate health and environmental protection. In this way, the costs of monitoring and inspection, of technical capacity for risk assessments and of other necessary regulatory and enforcement activities can be defrayed. In cases where safer alternatives are unavailable or inaccessible, the internalization of the public health costs within businesses implicated can help incentivize the development and adoption of safer products and processes. In 2015, the United Nations Environment Programme (UNEP) published guidance to support States in establishing measures to finance necessary administration activities in the management of toxic chemical products, which has been tested in four countries.[57]

66. International cooperation, including financial and technical assistance, has also been provided to assist low-income countries in developing the capacities needed to protect human rights implicated by toxic chemicals. International policy frameworks have also encouraged the mainstreaming of the management of toxic chemical and waste in development strategies to help unlock resources.[58]

E. Create effective institutions

Translate evidence into action

67. States must translate evidence of potential impacts on the enjoyment of human rights into timely and effective measures to respect, protect and fulfil each right implicated. The ability to protect the human rights to life and to health and to realize the right to access to the benefits of scientific progress and its applications hinges upon the ability to translate evidence into protective laws and policies. As discussed above, States must make expeditious progress in the realization of the rights to life and to health, taking all possible measures to protect those rights.

68. However, despite evidence of risks and impacts, there have been instances where the procedures of some States have enabled private interests to use scientific uncertainties as a basis for delaying action to reduce risks. This has led to extreme delays, some lasting decades, in translating evidence of hazard and risk into measures necessary to protect workers, children and others most at risk.[59] This is an unfortunate exploitation of scientific uncertainty by private interests. Scientific uncertainty will always exist. Several States have adopted the principle of precaution to help ensure that action is taken despite those uncertainties.[60] The principle of precaution is essential to the progressive realization of numerous human rights implicated by hazardous substances and wastes.

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[56] UNEP, *Costs of Inaction on the Sound Management of Chemicals* (2013). Available at www.unep.org/chemicalsandwaste/what-we-do/policy-and-governance/reports-and-publications/costs-inaction-initiative.

[57] UNEP Guidance on the Development of Legal and Institutional Infrastructures and Measures for Recovering Costs of National Administration for Sound Management of Chemicals, available at www.unep.org/chemicalsandwaste/what-we-do/policy-and-governance/reports-and-publications/lra-guidance.

[58] For example, the Strategic Approach to International Chemicals Management, in particular the overall orientation and guidance for achieving the 2020 goal of sound management of chemicals (SAICM/ICCM.4/6).

[59] See, for example, Jennifer Sass and Daniel Rosenberg, *The Delay Game: How the Chemical Industry Ducks Regulation of the Most Toxic Substances* (Natural Resources Defense Council, 2011).

[60] See, for example, the Rio Declaration on Environment and Development, principle 15, and the Treaty of Lisbon, art. 191.

Employ a whole-of-government approach

69. Protecting human rights against the effects of toxics almost invariably implicates numerous divisions of national Governments. This necessitates coordination and cooperation among the ministries responsible for environment, health, labour, energy, food, agriculture, economy, trade and justice and others. States must use a whole-of-government approach to the threat of toxic exposure to ensure that all relevant ministries and agencies effectively respect, protect and fulfil the human rights that are implicated.

70. Such coordination and cooperation remains a major challenge in all States, where in particular health, labour and justice ministries are often not sufficiently engaged, and related activities are fragmented across a myriad of underresourced agencies and ministries. Of significant concern is the limited engagement by authorities specifically responsible for human rights, including independent national human rights institutions, with regard to the problem of toxic exposure.

Prevent conflicts of interest

71. States need information in order to conduct the assessments of hazards and risks required to ensure that measures for protection are in place before adverse impacts manifest, and in order to realize the right to an effective remedy. Indispensable in this regard is the integrity of the information on which States rely. States must ensure the integrity of the evidence-gathering and decision-making processes in order to protect human rights from being infringed by the effects of toxics.

72. Conflicts of interest erode the integrity and credibility of institutions upon which States rely to protect against infringements of human rights resulting from hazardous substances; such conflicts sometimes even enable human rights abuses to start or continue.

73. States and international bodies must prevent not only actual conflicts of interest but also the appearance of such conflicts. For example, in declaration of interests forms for experts, WHO has referred to both "apparent" and "potential" conflicts of interest. Recent controversies have illustrated the importance of maximum transparency in appraisals of apparent or potential conflicts of interest.

74. The integrity of information relied upon by Governments must be beyond reproach. The reliance of regulators on industry-funded studies, the exclusion of independent science from assessments and the confidentiality of studies relied upon by authorities to reach conclusions are some of the concerns raised in this area. States should develop systems to reduce public concerns about the integrity of information and the credibility of decisions taken.

75. Concerns also consistently surface about conflicts of interest between the private sector and individuals in public bodies and those charged with reviewing the safety of hazardous substances to which people are regularly exposed. The "revolving door" between industry and government is frequently noted with concern.[41]

F. Enable people to claim and defend their rights

76. In order for human rights obligations to be met and the objective of sustainable development to be achieved, rights holders must be involved. States must enable people and peoples to claim and defend their rights. Empowering rights holders, particularly those most at risk, to defend their rights helps States meet their obligations under human rights law and uphold principles of accountability, democracy and rule of law.

77. The ability of rights holders to exercise and defend their rights is fundamental to the enjoyment of human rights and is at the core of rights-based environmental agreements such as the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention). Ensuring enjoyment

[41] See, for example, A/HRC/34/48, para. 87.

of the fundamental rights to freedom of expression, of assembly and of association is essential in enabling right holders to protect themselves, their families and their community from rights abuses linked to toxic chemicals, pollution, contamination and waste.

78. There is a widely recognized crisis facing environmental human rights defenders. Many such individuals are defending rights in the context of toxic threats from extractive industries or industrial pollution. The Special Rapporteur on the situation of human rights defenders has identified, and outlined seven principles that should underpin, good practices in the protection of human rights defenders, which could help empower defenders to know and claim their rights.[62]

79. Human rights defenders help to secure justice on behalf of victims and to break patterns of impunity, thereby helping to prevent future violations. Scientists are human rights defenders. They are at the vanguard of protecting human rights from the abuses tied to thousands of different hazardous substances, from greenhouse gases to pollutants that impair the health and well-being of children. Scientists have served as whistle-blowers, exposing the dangers of hazardous substances in the hope of preventing future violations.

80. Today, scientists who illustrate the impacts of hazardous substances on human health are often under attack in the form of threats to their livelihood, through funding cuts, or to their reputation. In some cases the attacks appear to be in response to increased efforts to clarify the threat posed by certain chemicals to children's health.

III. Responsibilities of businesses

81. Businesses have a responsibility to respect the human rights that are implicated by their activities, supply chains, products, policies, procedures and business relationships, including their investments. Virtually all businesses bear some responsibility. The toxic footprint of businesses individually and collectively across numerous sectors is resulting in human rights abuses, particularly for vulnerable groups. These impacts stand to increase along with current projections for increased production and use of toxic chemicals, barring strong action by States to better protect human rights from the threats they pose.

82. Fundamental to this responsibility is human rights due diligence in the area of toxic chemicals, pollution and waste. Businesses need to conduct such due diligence on toxics produced, used, released, stored and disposed of in the course of their activities, the life cycle of their products and their business relationships. Good examples do exist of companies reducing their toxic footprint or striving to respect human rights. While efforts to link human rights and the reduction of toxics within businesses are limited, examples exist and continue to be developed.

A. Identify and assess impacts

83. Businesses should identify and assess the actual and potential adverse human rights impacts in which they may be involved either through their own activities or as a result of their business relationships.[63] They should identify actual and potential impacts throughout the life cycle of their products, including supply and value chains. Traceability of supply chains and the life cycle of products is essential to identifying human rights abuses linked to the exposure of workers and communities to toxics.

84. This requires businesses to go beyond mere compliance with existing legislation and regulations. Existing legislation has been, and continues to be, outpaced by the rapid expansion and evolution of key industrial sectors, such as extractive and chemical industries, and innovation in new products and processes downstream. Legislation lags farther and farther behind the evidence of hazards, risks and impacts of hazardous substances and wastes. The rapid expansion of extractive and chemical industries in low-

[62] A/HRC/31/55.

[63] See principle 18 of the Guiding Principles on Business and Human Rights.

income countries has outstripped the capacity of government regulators, creating governance gaps and heightened possibilities of impacts.

B. Prevent and mitigate impacts

85. Businesses must actively seek to prevent the impacts of hazardous substances on the enjoyment of human rights. Prevention of impacts is best achieved through the elimination and substitution of the hazardous substances that are extracted, produced, manufactured, used, released or disposed of in the course of business activities.

86. When a means of elimination and substitution of toxics is not yet available, companies should mitigate exposure to toxic chemicals and the release of pollution to the best of their abilities. Consumers, communities and others who may be affected should be apprised of the risks. In instances where new information of hazards in products comes to light or environmental contamination results that requires remediation, businesses have a responsibility to prevent and mitigate impacts as quickly as possible, even if the State has not yet given orders to do so.

C. Account for efforts to address impacts on human rights

87. Businesses, including those that use, produce, release and dispose of hazardous substances, have a responsibility to publicly communicate information about the risks created by their activities and how they mitigate and address both actual and potential human rights impacts in which they might be involved.[64]

88. There is a shared responsibility among businesses that supply and use hazardous substances to communicate information to determine risks and prevent harm.[65] Companies throughout the chain of commerce should be responsible for providing the information, such as hazard, use and exposure information, necessary to assess the human rights risks posed by substances and materials.[66]

D. Key sectors

Extractive and power industries

89. Extractive industries have a long and ongoing history of impacts on human rights.[67] The products extracted, the tailings, leachate and other waste materials, the substances used in processing and the by-products of energy production can all be hazardous and give rise to human rights abuses. Numerous business sectors discussed below have supply chains, investments and other relationships that require detailed attention in their own due diligence processes in determining whether their supply chains can be tied to human rights abuses in extractive industries.

Chemical industry

90. Manufacturers of industrial chemicals, pesticides, pharmaceuticals and other chemical products have been responsible for human rights abuses resulting from the toxicity of their products, from unsafe conditions at facilities or from the inevitable pollution, contamination and waste produced by their products. Human rights due diligence must include the potential risk of abuse following the sale of toxic chemicals and pesticides, as well as the raw materials used for their production and the conditions at manufacturing facilities. Manufacturers have a responsibility to engage in continuous efforts to identify the

[64] See principle 21 of the Guiding Principles on Business and Human Rights.
[65] See, for example, the Chemicals Convention, 1990 (No. 170) of ILO.
[66] American Chemistry Council, "10 principles for modernizing TSCA" (2009).
[67] See A/HRC/21/48.

hazards and risks of their chemical products and to prevent impacts, including through the development of safer alternatives.

Food and agriculture

91. In addition to the pesticide manufacturers discussed above, downstream businesses are implicated in the value chain of food and agricultural production in which such hazardous substances are used. For example, according to UNICEF, "exposure to toxic chemicals is likely to be the single greatest health risk to pregnant and nursing workers in the palm oil sector".[88] Approximately 50 per cent of all consumer products around the world use palm oil, implicating large numbers of consumer product companies.[89] Air pollution resulting in haze is also of grave concern to children, women and older persons. Illnesses related to haze resulting from the clearing of forests and peat lands for palm plantations not only affect workers and communities near plantations, but can have transboundary impacts. Although the burning of forests and the use of certain pesticides are illegal, compliance and enforcement is poor and such practices continue. Other food and agriculture sectors that face challenges in preventing human rights abuses include coffee, cocoa, cotton and tobacco production.

Manufacturing sector and consumer products

92. Hazardous substances continue to be used in the manufacturing sector and as components of a variety of consumer products, implicating the rights of workers, local communities and consumers, as well as the rights of those who may be exposed to post-consumer waste.

93. Concerns about human rights abuses linked to toxic chemicals have been raised in the context of the electronics sector and the textile, leather and other garment industries. Researchers have also identified a myriad of adverse health impacts linked to toxic chemicals in cosmetics, personal care products, cleaning products, detergents and other household consumer products.

Retail sector

94. Retailers are able to demand compliance with human rights from their suppliers upstream to ensure that no community, consumer or worker suffers abuses due to hazardous substances linked to products they sell. Indeed, in response to consumer demands for products free of toxic chemicals and for ethical conduct by businesses, certain retailers are exceeding the standards provided by national and international laws. For example, retailers have prohibited the inclusion of certain chemicals of concern in their products.

Financial sector

95. The financial sector, including both investors and insurers, has the power to incentivize the companies to better respect human rights through a transition away from toxic practices. However, investments and insurance policies can also facilitate human rights abuses. For example, demand for investments in gold are believed to have contributed to an increased use of mercury for artisanal and small-scale gold mining, calculated to be the largest source of mercury emissions into the global environment[90] and the cause of birth defects and other health impacts among children in mining communities. Responsible investment initiatives should link human rights criteria with criteria on toxic chemicals, pollution and other such metrics.

[88] UNICEF, "Palm oil and children in Indonesia" (2016), p. 7. Available at www.unicef.org/indonesia/Palm_Oil_and_Children_in_Indonesia.pdf.

[89] See www.unicef.org/eu/palm-oil.html.

[90] UNEP, *Global Mercury Assessment 2013: Sources, Emissions, Releases and Environmental Transport*.

IV. Access to justice and remedy

96. Access to justice is an essential component of the rule of law and a means by which victims of toxics can actively claim the entire range of rights they hold, including access to an effective remedy. Human rights obligations in the area of toxics must be matched to appropriate and effective remedies when breached.[71] An effective system of justice and remedy helps to prevent future abuses and ensure responsible business conduct. States must ensure that victims of toxics have access to justice and effective remedies.[72]

A. Effective remedy

97. Effective remedies for violations of human rights law include the right of victims to have access to relevant information concerning violations and to effective and prompt reparation for harm suffered.[73] Reparations can involve restitution, compensation, rehabilitation, satisfaction, guarantees of non-repetition, including changes in relevant laws and practices, as well as bringing to justice the perpetrators of rights violations.[74]

98. Extrapolating from these principles, the right to an effective remedy requires, inter alia, the remediation of contaminated sites, compensation, the cessation of action or inaction that gives rise to impacts, the provision of health care and the dissemination of information to prevent recurrence.[75] Timely reparation to prevent recurrence is essential.[76] Moreover, the application must be without any discrimination of any kind or on any ground, including age.[77] To be effective, remedies should be appropriately adapted for vulnerable groups, such as children, taking into account their special needs, risks and evolving development and capacities.[78]

99. Independent assessments have identified hundreds of thousands of contaminated sites around the world. Sites can become contaminated for any number of reasons, including as a result of conflict and industrial operations. Left unaddressed, contaminated sites are a continuing threat to the rights, including the rights to life and to health, of present and future generations.

100. States struggle to remediate sites, many of which have been known to authorities for decades. Businesses responsible for the contamination can be unidentifiable, may no longer exist or may simply refuse to be accountable for the ongoing risks their activities pose to the enjoyment of human rights. In some cases, informal sector activities are responsible for a legacy of contamination. States must identify and remediate contaminated sites, and take measures to mitigate the adverse impacts of toxic contamination until remediation is complete.

101. Victims have a right to fair compensation for losses suffered. Compensation can address material losses and non-material or moral suffering. States have a duty to provide health care, including treatment and medicines, to address adverse impacts as needed.

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[71] See, for example, the International Covenant on Civil and Political Rights, art. 2. See also the Guiding Principles on Business and Human Rights, principles 22, 25 and 26, and the Rio Declaration on Environment and Development, principle 10.

[72] See E/CN.4/2006/42, para. 45.

[73] Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law, para. 11.

[74] Ibid., paras. 15-23. See also Human Rights Committee, general comment No. 31 (2004) on the nature of the general legal obligation imposed on States parties to the Covenant, para. 16, and Convention on the Rights of the Child, art. 39.

[75] See A/HRC/33/41, para. 40.

[76] Committee on the Rights of the Child, general comment No. 16, para. 31.

[77] Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law, para. 25.

[78] See Human Rights Committee, general comment No. 31, para. 15; see also Committee on the Rights of the Child, general comment No. 16, para. 31.

102. States have the primary obligation to ensure timely remedy for victims, but must also ensure that in time the businesses responsible for rights abuses are held accountable, including through restitution for all costs incurred in realizing an effective remedy for victims. In the context of transnational business activities, international cooperation is often essential to help ensure that victims have timely access to an effective remedy.

103. It is essential that as part of an effective remedy States take measures to avoid recurrence of the type of violation in question, which may require changes in the State's laws or practices regarding toxics.[79] States have strengthened information requirements and enforcement actions and phased out toxic chemicals of concern, among other measures, to avoid recurrence. However, States must not wait until risks materialize as harm to progressively strengthen protections.

104. States must ensure that perpetrators of human rights violations related to toxics can be brought to justice and held criminally liable. In recent years there has been an increase in illegal and criminal activities surrounding the sale, use, emission and disposal of toxic chemicals, pesticides and wastes.[80] These activities coincide with a range of criminal acts, including money laundering, fraud and racketeering.

B. Obstacles to remedy

105. Everyone has the right to equal and effective access to justice and remedy. In practice, however, elements of discrimination and other challenges remain when victims who are most vulnerable to toxic exposures seek justice. Some of the specific challenges that must be addressed to ensure access to justice and an effective remedy in the context of toxics are discussed below.

Causation and the burden of proof

106. The burden placed upon victims to prove a causal link between health impacts that take years or decades to manifest and potential exposure to thousands of different substances with known and unknown hazardous properties, through any number of exposure routes, can be an insurmountable obstacle. This is often because information on intrinsic hazards and exposures is either not available or not accessible, and is complicated by the vast number of potential diffuse sources of exposure, periods of heightened sensitivity during a lifetime, the latency of visible impacts and other factors. Placing the burden on victims of the effects of toxic chemicals to prove the cause of their illness, rather than on businesses with access to and control of relevant information and the power to generate it when it is missing, can be a grave injustice. States should further explore options to better balance the right of victims to justice and remedy. Greater accountability can help to incentivize the development and adoption of safer alternatives that carry less risk of human rights abuses.

Costs

107. Access to justice requires that procedures not be prohibitively expensive.[81] In general, but particularly for low-income communities who are disproportionately affected by toxic exposure, the expense of legal proceedings can obstruct access to justice and remedy. The complex legal cases for alleged injuries resulting from toxics can incur prohibitively expensive legal fees. In addition to attorney fees, other related costs may be incurred, such as court fees, fees to pay for scientific experts and transportation, and lost pay. The obligation of an unsuccessful claimant to pay the legal expenses of other parties can also prevent access to justice and remedy. States must ensure that access to justice and remedy for the impacts of toxics is not prohibitively expensive.

[79] See, for example, Human Rights Committee, general comment No. 31, para. 17.

[80] See www.unep.org/newscentre/unep-interpol-report-value-environmental-crime-26.

[81] See, for example, the Aarhus Convention, art. 9.

Transnational claims, corporate structures and acquisitions

108. The impacts of businesses often manifest in countries other than those in which decisions are made or where financial resources for remedies are available. In some countries, the lack of an independent judiciary, undue influence on regulatory decisions and other factors can make claims difficult to pursue. States must ensure that corporations in their territory are accountable for abuses abroad, including by enabling foreign victims to bring claims for abuses.

109. Corporate structures, for example parent-subsidiary relationships, have prevented access to justice and remedy. Despite recognition that parent companies influence conduct within the corporate group, victims of corporate human rights abuses linked to toxic exposure can be left without justice or remedy because courts are reluctant to pierce the corporate veil. Furthermore, the acquisition of assets without the transfer of liabilities can deprive victims of the resources necessary to secure an effective remedy. States must ensure that corporate structures and acquisitions do not prevent victims from accessing justice or remedy for human rights abuses linked to toxic exposure.

Conflict

110. The lack of transparency demonstrated by States regarding the pollution caused by their actions during conflict can impede the identification of contaminated sites, and thus limit access of affected communities to preventative health care, information on how to reduce risks and other protective measures. Moreover, States recovering from conflict often lack technical assistance and funding to remediate toxic remnants of war, leading to further harm post-conflict. Communities affected by military bases and testing of weapons often do not have access to the classified information necessary to ensure an effective remedy for victims of the resulting contamination.

V. Conclusions and recommendations

111. **Over the past several decades, many States have made welcome progress in reducing the impacts of toxics. However, this progress has not been shared equally. There remain disparities within and among countries of all income levels in respecting, protecting and fulfilling human rights implicated by toxics. The disparity between high-income countries and low- to middle-income countries is serious.**

112. **The above guidelines for good practices are intended to assist States in ensuring that their laws and other practices are in line with their human rights obligations. In this vein, the Special Rapporteur recommends that States and other stakeholders apply the following principles:**

(a) **States must ensure that legislation and other practices reflect their duty to respect, protect and fulfil human rights obligations implicated by hazardous substances and wastes, including the rights to life, to health and to physical integrity;**

(b) **States must ensure that their practices relating to hazardous substances and wastes ensure equality, do not discriminate against any vulnerable group, including children, the poor, workers, persons with disabilities, older persons, indigenous peoples, migrants and minorities, and take into account gender-specific risks;**

(c) **States should use inherently safer design, implement a life-cycle approach to protect the most vulnerable from hazardous substances and wastes and should, with urgency, apply a global approach;**

(d) **States must enact and enforce legislative and regulatory frameworks to protect human rights against infringement caused by business operations that produce, use, release, store and dispose of hazardous substances and wastes, including the foreign operations of businesses based in their territory; States must not lower standards of protection and must continuously improve protections; to fulfil their obligations, States should explore cost-recovery systems;**

(e) States must establish effective institutions capable of taking timely action to protect human rights; States must prevent conflicts of interest and should implement a whole-of-government approach;

(f) States must enable people and peoples to claim and defend their rights against the threats of toxic and otherwise hazardous substances and wastes;

(g) Businesses should conduct human rights due diligence for the life cycle of toxics in their products and their operations, including supply and value chains, and should identify and assess risks, prevent and mitigate impacts, and be transparent and accountable regarding their efforts; States, as part of their duty to protect, should compel businesses to conduct and publicly disclose such due diligence;

(h) States must ensure that victims of the effects of hazardous substances and wastes have access to an effective remedy, including remediation, health care, compensation and a guarantee of non-repetition, among others, and must reduce systemic obstacles, including the burden of proof and causation, among others, that prevent victims of toxic exposure from accessing remedies.

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Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes on his mission to the United Kingdom of Great Britain and Northern Ireland*

Note by the Secretariat

The Secretariat has the honour to transmit to the Human Rights Council the report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes on his mission to the United Kingdom of Great Britain and Northern Ireland. In his report, submitted pursuant to Human Rights Council resolution 27/23, the Special Rapporteur shares his findings and recommendations derived from his visit.

* The present report was submitted after the deadline in order to reflect the most recent developments.

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Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes on his mission to the United Kingdom of Great Britain and Northern Ireland*

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* Circulated in the language of submission only.

I. Introduction

1. The Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes conducted an official visit to the United Kingdom of Great Britain and Northern Ireland from 17 to 31 January 2017. The purpose of the visit was to monitor and assess steps taken by the Government to protect the human rights implicated in the management of hazardous substances and wastes.

2. The Special Rapporteur wishes to thank the Government of the United Kingdom for its invitation and cooperation. The Special Rapporteur met with governmental representatives of the United Kingdom and authorities of the devolved governments of Northern Ireland, Scotland and Wales; representatives of human rights commissions; various authorities, including the Commissioner for Future Generations of Wales; Members of Parliament; and members of the private sector. The Special Rapporteur also held consultations with civil society organizations and businesses, as well as communities affected by pollution from industrial activities and those concerned about the toxic threats of fracking and nuclear waste.

II. Governance

A. Overview

3. Governance of hazardous substances and wastes throughout their lifecycle is a complex but necessary duty of States. To be effective, such governance should be addressed through a multisectoral approach.

4. The governance structure of the United Kingdom comprises 24 ministerial departments, 22 non-ministerial departments and more than 300 agencies and other public bodies, and some statutory powers devolved to the governments of Northern Ireland, Scotland and Wales. At present, the country's governance system is linked to the European Union institutions, as well as to a myriad of central or regional agencies, devolved governments and local authorities. As the issue of toxic chemicals touches on numerous policy areas, effective coordination and cooperation between agencies is necessary to respect, protect and fulfil the implicated human rights.

5. This complexity is well illustrated by the example of natural gas extraction via hydraulic fracturing (fracking). Considered primarily an energy issue — a reserved matter falling under national jurisdiction (except in Northern Ireland) — the Department for Business, Energy and Industrial Strategy takes the overall policy lead. Meanwhile, environmental matters are devolved, with the Department for Environment, Food and Rural Affairs responsible for environmental protection in England and collaborating closely with the devolved administrations.[1] The relevant environmental regulator therefore provides the necessary environmental permit, while the local planning authority grants planning permission. The 2015 Infrastructure Act, which regulates fracking, allows the Secretary of State for Communities and Local Government to call in planning applications and overrule a local authority's decision. Furthermore, the government of Wales has specific notification

[1] The primary environmental regulators in the United Kingdom are the Environment Agency for England, Natural Resources Wales, the Scottish Environment Protection Agency and the Northern Ireland Environment Agency.

directions relating to fracking applications which require local planning authorities to refer to Welsh ministers concerning applications.

6. Devolution has, on the one hand, allowed for more democratic decision-making about public health and environmental threats. A good example is the moratorium in force in Scotland on onshore unconventional oil and gas extraction (including fracking), which is allowing for informed decision-making and meaningful public participation. On the other hand, the increased responsibility accorded to local authorities, who often have insufficient resources, as well as the lack of structured cooperation between relevant authorities and limited channels of accountability and oversight, can be problematic.

7. During his visit, the Special Rapporteur observed that this highly complex and dispersed governance structure often causes confusion among the public.

8. For example, the Special Rapporteur met with representatives of a community in Merthyr Tydfil, in Wales, who explained that they continued to object to the ongoing operation of the Fos y Fran opencast coal mine, which began in 2007. The granting of planning permission was conditional on effective dust suppression measures being undertaken. While policy mechanisms for new opencast mines suggest a 500-metre buffer protection zone, unless there are exceptional circumstances, the closest houses to this mine are less than 40 metres away, apparently resulting from a legislative loophole allowing large expansions of old mines under "reclamation schemes". Winds are alleged to blow very frequently from the mines towards the community, bringing large amounts of dust and giving rise to serious health concerns. Residents claimed that there were cancer clusters and a high prevalence of childhood asthma in the area.

9. The Special Rapporteur was told that local authorities have been unreceptive to the concerns, instead directing residents to the mining company, Miller Argent (South Wales) Ltd., which has denied the dust problem. It was suggested, in discussions with the government, that most health problems were attributed to unhealthy lifestyles, not the mine. Despite repeated requests, authorities have not conducted independent health assessments since 2007, when the mining activities commenced. The Welsh authorities explained why a health study for such a small area and population near a source of pollution would not be dispositive. Rudimentary dust studies are undertaken by local residents themselves to provide evidence of their concerns.

10. In another example, inhabitants of South Falkirk in Scotland recounted to the Special Rapporteur that for the last seven years they had requested authorities to address concerns regarding the spreading of sewage sludge onto agricultural land. The sludge is thought to contain heavy metals and toxic substances, including proteinaceous infectious particles. Scientific evidence increasingly links these particles to Creutzfeldt-Jacob, Alzheimer's and Parkinson's diseases.[1] Residents, in particular those with existing respiratory health conditions, complain of adverse health effects allegedly caused by the sewage. Unsuitable transportation allows large sludge deposits to be spilled, leaching into land and watercourses, while stockpiles appear to be inappropriately stored. Residents allege that public authorities are failing to effectively regulate them or record application and saturation levels. Despite repeated requests, information on sludge treatment has not been disclosed. The government of Scotland explained a public consultation on proposed legislative changes had just been completed and a research project commissioned on the health impacts of spreading sludge, for publication in early 2018.

[1] See www.scientificamerican.com/article/are-prions-behind-all-neurodegenerative-diseases1/

B. Consequences of austerity

11. The impact of austerity measures initiated in 2010 has meant a radical lack of resources and reduction in public grants for the main environmental regulators across the United Kingdom. Between May 2015 and May 2016, the Department for Environment, Food and Rural Affairs and its agencies agreed to 500 voluntary exit packages, while the environment department, which is operating with a third of its core staff compared with just 10 years ago, must further trim its budget by 15 per cent by 2019 or 2020. Coupled with increased responsibilities for environmental matters given to the devolved authorities, the decreasing financial, technical and human resources due to austerity have created serious governance gaps.

12. A pertinent example is the Department's decision to withdraw capital grants to local councils to clean up contaminated land sites beginning in 2017. Considering that the polluter pays principle is in practice applied in only 9 per cent of cases, as the original polluter can often no longer be found, costs are usually borne by local authorities. According to the House of Commons Environmental Audit Committee, without the capital grants, local authorities with strained resources are unlikely to proactively investigate land contamination cases despite potentially serious health risks.[7]

III. Potential implications of withdrawal by the United Kingdom from the European Union (Brexit)

13. European Union regulations have undoubtedly strengthened human rights protections from various sources of pollution and contamination in the United Kingdom, holding the country to legally binding targets and reporting requirements. With some of the highest environmental standards in the world, the European Union has played a major role in shaping the United Kingdom environmental policy and improving its approach towards the management of hazardous substances and wastes. For example, as a member of the European Union, the United Kingdom has succeeded in significantly lowering sulphur dioxide emissions, previously the highest in the European Union, and improving waste disposal and sewage treatment practices.

A. Transposition of European Union legislation

14. On 29 March 2017, the Prime Minister triggered the formal two-year process that will lead to the departure of the United Kingdom from the European Union, also referred to as Brexit. Through the Great Repeal Bill, the European Communities Act will be repealed and the full body of existing European Union law transferred into United Kingdom law, with decisions about which legislation to repeal or amend to be addressed at a future stage. The United Kingdom Government states that the Great Repeal Bill will ensure that the whole body of existing European Union environmental law continues to have effect in the country. However, many interlocutors admitted uncertainties about how a transposition of European Union law could be achieved. The Secretary of State for Environment, Food and Rural

[7] House of Commons Environmental Audit Committee, *Soil Health*, First Report of Session 2016-7, 2 June 2016.

Affairs has advised that approximately one third of European Union environmental legislation will be difficult to transpose into United Kingdom law.[4]

15. Although the Environmental Audit Committee requested the Government, prior to triggering article 50 of the Treaty of Lisbon, to legislate a new Environmental Protections Act to ensure equal or higher standards than afforded by European law, the request was not heeded. The Government's decision to trigger article 50 without clarifying the technical details of the transposition of European Union law may pose a real danger that the country will be left without a clear framework to ensure levels of protection similar to those currently provided by the European Union. The United Kingdom Government is confident that it will be able to address these issues.

16. There were concerns, however, that the Government has not adequately assessed the burden of additional responsibilities to be shouldered by environmental regulators to replace the role of various European Union bodies. For example, the critical functions carried out by the European Chemicals Agency cannot simply be transferred into United Kingdom law, and should the United Kingdom leave the Agency, it will have to develop its own systems, at considerable cost, in order to maintain standards of protection.

B. Potential regression from human rights standards

17. Under the principle of non-regression, protections of human rights may not be lowered unless there is a strong justification for a retrogressive measure.[5] Furthermore, States are required to make progress in improving protections of life and health from toxic substances and wastes.[6] The fact that progressive realization is foreseen for the implicated economic, social and cultural rights is not an excuse for delay and should not be misinterpreted as depriving the obligation of all meaningful content.[7] States must move as expeditiously and effectively as possible to protect the right to health,[8] and take all possible measures to reduce infant mortality and increase life expectancy, especially by adopting measures to eliminate malnutrition and epidemics.[9]

18. The obligation to avoid retrogression applies to Brexit. The Special Rapporteur heard assurances from the Government that it intends to maintain current European Union standards on human rights and environmental protections. Yet, lack of clear guarantees, in particular to keep up with (presumably strengthening) European Union standards of human health and environmental protection over the coming years, and statements such as those made by the Parliamentary Under-Secretary of State for Environment, Food and Rural Affairs that existing laws would be maintained "wherever practical and desirable", are worrying.[10]

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[4] House of Commons Environmental Audit Committee, *The Future of the Natural Environment after the European Union Referendum*, Sixth Report of Session 2016-17, 4 January 2017.

[5] Universal Declaration of Human Rights; International Covenant on Civil and Political Rights, art. 30; International Covenant on Civil and Political Rights and International Covenant on Economic, Social and Cultural Rights, common art. 5; European Convention on Human Rights, arts. 17 and 53.

[6] See, e.g., International Covenant on Economic, Social and Cultural Rights, art. 12 (emphasizing the State's duty to improve all aspects of environmental hygiene).

[7] See Committee on Economic, Social and Cultural Rights, general comment No. 3 (1990) on the nature of States parties' obligations.

[8] Ibid.

[9] See Human Rights Committee, general comment No. 6 (1982) on the right to life.

[10] Department for Environment, Food and Rural Affairs, written questions about environmental protection received by the Government on 13 October 2016.

19. Should the Government fail to equal the European Union on air quality controls, chemical restrictions or product manufacturing standards, the United Kingdom market could risk becoming a haven for "dirty" industries and a dumping ground for products failing to meet European Union regulations.

20. Considering that the chemical and pharmaceutical industries are the country's leading manufacturing export earners and that 60 per cent of chemical exports are destined for the European Union, it appears that many United Kingdom companies support remaining within European Union regulatory frameworks.[11] In an inquiry published by the Environmental Audit Committee in April 2017, for example, most respondents expressed the wish to stay closely aligned to the REACH (registration, evaluation and authorization of chemicals) regulation.[12] However, the United Kingdom Government informed the Committee that it might not remain fully involved, considering that REACH is a single-market mechanism. Recognizing that relinquishing REACH membership while maintaining access to the single market implies establishing a costly stand-alone system, the Committee has urged the Government, at a minimum, to negotiate remaining within the data-sharing and registration process system of REACH.

21. Further compounding the potential for a weakening of human rights protections are the efforts by the United Kingdom to develop new trading opportunities. Certain prospects, such as the United States of America, take a regulatory approach to health, environmental and other human rights protections that are in many aspects at odds with those of the European Union today, such as the precautionary principle embedded in the Treaty of Lisbon. The Parliamentary Joint Committee on Human Rights has warned that human rights protections must not be lost in the rush to develop new trading opportunities.[13] The Special Rapporteur welcomed assurances made by the Government that it does not intend to align the country's future chemicals regulation system with certain weaker systems.[14]

IV. Specific issues raised with the Special Rapporteur

22. Air pollution, fracking, the long-term disposal of high-level radioactive waste, legacy landfills and other issues were brought to the attention of the Special Rapporteur during his mission. These issues implicate individuals' right to life, the right to the enjoyment of the highest attainable standard of physical and mental health, equal participation in political and public affairs, the right to access information and the right to an effective remedy, as well as the special protections provided to children under the Convention on the Rights of the Child.

A. Air pollution

23. Air pollution continues to plague the United Kingdom. Over 40,000 premature deaths per year are estimated to occur in the country, with over 9,000 in London alone.[15] According to the National Institute for Health Care and Excellence, the impact of poor air

[11] Chemical Industries Association, *BREXIT: The UK Chemical Industry Response: Results of the CIA Member Survey on Brexit* (2016).

[12] House of Commons Environmental Audit Committee, *The Future of Chemicals Regulation after the EU Referendum*, Eleventh Report of Session 2016-17, 29 April 2017.

[13] *Human Rights and Business 2017: Promoting Responsibility and Ensuring Accountability*, Sixth Report of Session 2016-17, 5 April 2017.

[14] Ibid., p. 9.

[15] See Environmental Audit Committee, *Air Quality*, Fifth Report of Session 2009-10, 22 March 2010.

quality on health across the United Kingdom has been estimated to cost about £18.6 billion per year.

24. Children, older persons and people with pre-existing health conditions are at grave risk of mortality, morbidity and disability, with magnified risks among the poor and minorities. In the view of the Special Rapporteur, by neither taking action as expeditiously and effectively as possible, nor taking all possible measures to reduce infant mortality and to increase life expectancy, the United Kingdom Government has violated its obligations to protect life, health and the development of children in its jurisdiction.

25. Paediatricians generally refer to the impacts of pollution and contamination on children's health as a silent pandemic (see A/HRC/33/41, para. 4), with research on air pollution illustrating respiratory failure-induced death, birth defects, adverse pregnancy outcomes (including premature birth), asthma and immune deficiency.[16] A study commissioned by the mayor of London in February 2017 identified 802 educational institutions, including nurseries and schools, as being exposed to levels of nitrogen dioxide that breach European Union legal limits. As highlighted by the mayor, this is not only an environmental and public health challenge, but also an issue of injustice and discrimination, as victims of the worst pollution often belonging to lower-income groups.

26. Air quality regulation in the United Kingdom is driven by European Union legislation. All major European Union directives have been transposed into domestic legislation, including the European Union National Emissions Ceilings Directive (2001/81/EC) (the Government plans to transpose the revised Directive, 2016/2284/EU, into United Kingdom legislation by the 1 July 2018 deadline), the Ambient Air Quality Directive (2008/50/EC) and the Industrial Emissions Directive (2010/75/EC). Devolved administrations in the United Kingdom are responsible for their own air quality policy and legislation. While the Environment Act 1995 requires the United Kingdom Government, Scotland and Wales (with equivalent legislation in Northern Ireland) to produce a national air quality strategy, it also sets provisions for local air quality management, obliging local authorities to prepare plans but not to carry out the measures described in those plans.

27. Some cities across the United Kingdom have been in breach of European Union standards on nitrogen dioxide since 2010, when they failed to comply with agreed threshold levels set in the European Union Ambient Air Quality Directive. According to a December 2015 report by the Department for Environment, Food and Rural Affairs, 38 out of 43 United Kingdom air quality zones exceeded maximum annual mean limits of nitrogen dioxide.[17] Across the United Kingdom, 631 new Air Quality Management Areas had been declared as of 3 July 2017.

28. On two occasions, United Kingdom courts have found the Government to be in breach of European Union air quality regulations. In July 2011, the non-governmental organization ClientEarth challenged the Department in the High Court for failing to protect citizens' health from the harmful impacts of air pollution. It took its case to the Supreme Court, where the Secretary of State agreed that the United Kingdom was in non-compliance with the European Union Ambient Air Quality Directive and ordering it to submit new plans to the European Commission no later than 31 December 2015.[18] In response to the ruling, the Government announced its new 2015 Air Quality Plan, introducing local measures to tackle the most polluting vehicles in a small number of "air quality hotspots", although

[16] See www.ncbi.nlm.nih.gov/pmc/articles/PMC2528642/.

[17] "Improving air quality in the UK: Tackling nitrogen dioxide in our towns and cities", overview document, December 2015.

[18] *R (on the application of ClientEarth) v. Secretary of State for the Environment, Food and Rural Affairs*, judgment of 29 April 2015.

exempting privately owned cars from paying charges. It also announced the introduction of Clean Air Zones to address air quality hotspots in Birmingham, Leeds, Nottingham, Derby and Southampton by 2020.

29. Accusing the Government of limiting itself to five Clean Air Zones because of cost implications and using inaccurate air pollution modelling forecasts, ClientEarth took the Government back to the High Court in a judicial review, and in November 2016 the Court found the Government's plan to be insufficient to comply with the European Union Directive. The Court ordered the Government to take measures to improve air pollution as soon as possible, and to develop a new plan by 31 July 2017.[19]

30. A new plan to mitigate air pollution was published in July 2017. The 2017 plan is presented as "delivering cleaner air in the shortest time possible." While many considerations must be taken into account, the latest plan does not convey the necessary urgency to protect the rights of children, older persons and other sensitive groups. For example, key details of the plan will not be finalized until December 2018 by local authorities. In doing so, local authorities are discouraged from using "charging zones," which the Government itself determined is the fastest, most effective way to reduce air pollution levels. Leaders of at least six city councils claim measures will not enable their cities to stay within legal limits on air pollution.

31. The Special Rapporteur is alarmed that despite repeated judicial instruction, as well as recommendations by the Committee on the Rights of the Child (see CRC/C/GBR/CO/5, paras. 68-69) the United Kingdom Government continues to flout its duty to ensure adequate air quality and protect the rights to life and health of its citizens.

B. Fracking

32. While shale gas development is at an early stage in the United Kingdom, the Government is encouraging its exploration to determine its potential to provide greater energy security and growth. More than 200 areas in the United Kingdom have been earmarked for possible fracking.[20]

33. Fracking has drawn strong community opposition wherever applications have been proposed. In January 2015, the government of Scotland imposed a moratorium on all planning and relevant environmental consents for unconventional oil and gas extraction in Scotland pending further assessments of the potential impacts. In January 2017, it launched a public consultation on whether to allow such extraction and, based on its outcome, intends to make a recommendation that will go before the Scottish Parliament for a vote towards the end of the year.

34. In Wales, the National Assembly adopted a motion against fracking on 5 February 2015. Until the passage of the draft Wales Act, granting further devolved powers to the National Assembly and the government, the United Kingdom Government pledged not to grant any fracking licences. The Act came into force on 31 January 2017, giving the Welsh government, which has historically opposed fracking, the authority over licensing for oil and gas extraction in Wales from 2018.

35. Currently, all planned shale gas developments are located in England. One exploratory well was operated in Preese Hall, in Lancashire. Operations ceased there in 2011, following seismic events, and have not resumed. In October 2016, the Government

[19] Case No. CO/1508/2016, *ClientEarth (No. 2) v. Secretary of State for the Environment, Food and Rural Affairs*, judgment of 2 November 2016.

[20] See https://act.foe.co.uk/act/ban-fracking-now.

approved plans by the company Cuadrilla to conduct exploratory fracking at Preston New Road in Lancashire, and planning permission has also been obtained by Third Energy to carry out exploratory fracking at a site in Kirby Misperton, Yorkshire. In May 2017, the Government also granted planning permission to the company IGas for two shale exploration proposals (drilling, not fracking) at Misson and Tinker Lane, Bassetlaw, Nottinghamshire.

36. Fracking poses several human rights concerns. A number of chemicals used in fracking are known or suspected to be harmful to human health. The fracking process also mobilizes toxic and radioactive substances. Both these chemicals and toxins, whether occurring naturally or introduced, remain in the resulting wastewater, each well producing millions of litres of "flowback fluid" which must be treated and disposed of extremely carefully to avoid environmental pollution and human exposure.

37. One of the most detailed public health studies on fracking, conducted by the Department of Health of New York State, found increased symptoms reported by residents living near gas drilling sites of skin rashes, nausea and vomiting, abdominal pain and breathing difficulties, which were found to be consistent with exposure to the chemicals used in fracking. Health studies have also established links between unconventional oil and gas extraction and adverse health outcomes in babies born to mothers living in the vicinity of well pads.[21] Workers risk exposure to respirable crystalline silica, which may cause silicosis and lung cancer. According to a health impact assessment carried out by the government of Scotland in 2016, there is evidence that air and waterborne hazards would be likely to occur as a result of fracking and that waterborne hazards are likely to have a negative impact on the quality of groundwater drinking sources.[22] While Health Protection Scotland and Public Health England claim that potential hazards and risks could be mitigated through proper operation and regulation, such assertions need greater substantiation to hold weight. The Special Rapporteur recalls that the United Kingdom has an obligation to protect the right of children to the highest attainable standard of health from contaminated water.[23]

38. The United Nations Environment Programme has concluded that hydraulic fracking may result in unavoidable environmental impacts, even if unconventional gas is extracted properly.[24] The large volumes of water used, the risks of accidental spills and leaks from wells and storage containers contaminating nearby soil and groundwater and the pollution caused by machinery and transport movements all pose serious concerns. A study conducted by the Royal Society for the Protection of Birds and a number of other wildlife charities in the United Kingdom concluded that many different aspects of fracking would negatively affect wildlife and reduce available water resources.[25]

39. To protect the right to safe water, strong and fully enforced regulations on chemicals used and waste generated and continuous monitoring, including after closure, are needed. According to the Government, environmental and health risks associated with fracking can be managed effectively, provided operational best practices are implemented and enforced. However, United Kingdom regulations on fracking are complex and split between several regulators, and do not appear to be sufficiently stringent. Meanwhile, European Union

[21] New York State Department of Health, *A Public Health Review of High Volume Hydraulic Fracturing for Shale Gas Development* (2014).

[22] Health Protection Scotland and National Services Scotland, *A Health Impact Assessment of Unconventional Oil and Gas in Scotland*, Volume 1, *Report* (2016).

[23] Convention on the Rights of the Child, art. 24.

[24] United Nations Environment Programme, Global Environment Alert Service, "Gas fracking: can we safely squeeze the rocks?", November 2012.

[25] *Hydraulic Fracturing for Shale Gas in the UK: Examining the Evidence for Potential Environmental Impacts* (2014).

regulations do not provide sufficiently robust guidelines, instead relying heavily on self-monitoring by the oil and gas industry.

40. The 2015 Infrastructure Act initially included a "necessary conditions" clause, for example prohibiting fracking under protected areas or within the boundaries of water protection zones; however, the House of Lords threw out this clause. The protected areas where hydraulic fracturing will be prohibited have since been set out in the Onshore Hydraulic Fracturing (Protected Areas) Regulations 2016. While environmental impact assessments have been produced for the two sites with planning permission to date, the Town and Country Planning (Environmental Impact Assessment) Regulations of 2017 only require such assessments for installations over a certain volume of production or greater than an undefined "area of the development". And while the Health and Safety Executive must conduct visits to fracking wells, they need not be unannounced, nor are there requirements to conduct independent inspections of well integrity. Finally, there are no requirements to continue monitoring methane emissions after a site is decommissioned, or to conduct long-term monitoring of other gases.[26]

41. Fracking clearly implicates individuals' right to information. Information about hazardous substances in fracking operations must be available and accessible to everyone, with special attention to those at greatest risk of harm. Health and safety information about toxic chemicals and wastes must never be confidential. The Special Rapporteur was encouraged to learn that the Environment Agency requires full disclosure of the chemicals used in fracking, and may prohibit the use of substances that pose an environmental risk. However, it may not have the capacity to continually apply such checks, and it remains a concern that such information does not need to be disclosed when applying for planning permission.

42. Recent decisions on fracking in England have been met with much controversy. In the case of the Preston New Road site, the Secretary of State for Communities and Local Government overturned the Lancashire County Council's decision to refuse planning permission. The affected community claims this to be a denial of local democracy, given that the local authority had originally refused permission, and the Council has called on the Government to address the community's concerns and ensure adequate environmental controls. A new appeal has been launched against the decision by the Secretary of State to grant planning permission at Preston New Road, and a hearing is expected to be held in August 2017.

43. In the case of the Kirby Misperton site, Friends of the Earth and Frack Free Ryedale legally challenged the granting of planning permission, arguing that the North Yorkshire County Council failed to properly assess the environmental impacts and lacked information about the total carbon emissions that would result from the project. In December 2015, the High Court dismissed the challenge, ruling that the Council's environmental assessments were sufficient.[27]

44. In principle, the Government recognizes that the negative health and environmental impacts associated with fracking must be managed with strong and fully enforced regulations. In practice, however, fragmented policymaking allows for loopholes, and the full extent of the impact on affected communities may not be adequately weighed in decision-making.

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[26] See www.talkfracking.org/news-archive/whats-in-the-infrastructure-act-2015/.

[27] Case No. CO/3470/2016, *Friends of the Earth Ltd. and Frack Free Ryedale v. North Yorkshire County Council*, judgment of 20 December 2016.

C. Toxic landfill sites

45. Waste disposal in the United Kingdom was historically managed through landfills, using a "dilute and disperse" approach. With the adoption of European Union legislation and evolving technology, waste management has become more sustainable and hundreds of landfills have closed across the country. The European Union Waste Framework Directive (2008/98/EC) provides the legislative framework for waste management, and requires States to ensure that human health or the environment is not endangered. The 1990 United Kingdom Environmental Protection Act implements the Directive. Where waste needs to be landfilled, it must comply with the requirements of the European Union Landfill Directive (1999/31/EC).

46. Due to its industrial history, the United Kingdom must also contend with a historic legacy of contamination. Some 300,000 hectares of soil are to some degree contaminated, some with toxic elements.[28] In England alone, almost 20,000 historic landfills dating back to the 1800s predate current domestic and European Union legislation, and tend to be unlined and lacking in leachate or gas management. Considering that over a thousand sites are located on the coast, there is a real risk of releasing waste due to flooding or erosion.

47. There are often no records on historic sites and their contents and a comprehensive response strategy for eroding locations, with specific guidelines to assess and manage their pollution risk, is lacking. Authorities tend to be too severely underresourced to carry out precautionary investigations or systematic land checks, with the costs of sampling analyses, remediation and waste relocation being prohibitively expensive.[29] In cases where developers wish to build on a site, it is their responsibility to ensure that health and safety standards are met. However, considering that many landfill sites are situated in zones considered unsuitable for development, monitoring responsibility often falls on local authorities, who have been hard hit by austerity measures.

48. The Special Rapporteur also heard concerns with regard to inadequate disposal of remnants of former activities of the United Kingdom military. Highly radioactive elements were discovered in 2011 at Dalgety Bay, which served as a naval support station in the Second World War. While initially denying responsibility, the Ministry of Defence has meanwhile agreed to carry out remediation activities. The case provides an encouraging example of how the environmental regulator, the Scottish Environment Protection Agency, sought support to ensure the protection of the environment and human health.

49. The Special Rapporteur cautions that austerity measures and budget cuts must never endanger human rights protections. In the case of historic waste, it is imperative that the Government recognize threats to life, health, child development and other human rights, and respond immediately to the serious risks they pose.

D. High-grade nuclear waste

50. The United Kingdom has a substantial legacy of radioactive waste from civil and defence programmes. The nuclear power industry is the source of most radioactive waste in the United Kingdom. There are currently 8 operating nuclear power stations, while 11 are being dismantled. According to the Government, the total amount of radioactive waste currently held in stores at 1 April 2016 and forecast up to 2125 would occupy a volume of

[28] House of Commons Environmental Audit Committee, *Soil Health*, p. 6.

[29] James Brand and Kate Spencer, *Assessing the Risk of Pollution from Historic Coastal Landfills: Executive Summary for the Environment Agency* (Queen Mary University of London, 2017).

about 4,770,000 cubic metres, similar to the volume of Wembley stadium.[30] The majority of reprocessing takes place at Sellafield, in Cumbria.

51. Currently, most of the radioactive waste in the United Kingdom, which must be managed for tens of thousands of years, is stored at ground level in vaults and buildings. Recognizing the potentially catastrophic impacts in case of an accident, and set to expand nuclear energy as a "cleaner" alternative to fossil fuels, the Government has committed to establishing a long-term geological disposal facility for higher-activity radioactive waste. So far, a suitable site has not been found.[31]

52. The Department of Energy and Climate Change issued a White Paper in July 2014 in which it detailed a renewed approach to implementing a geological disposal facility in England and Northern Ireland.[32] Its key principles include undertaking a national geological screening exercise; developing a non-site-specific National Planning Statement to support the planning process; and developing a process for working with communities, including community representation and details of community investment. The paper suggests that the Department favours a voluntarist approach based on working with communities that are willing to participate in the siting process. Significant economic benefits and additional community investment are promised to host communities.

53. Concern was raised by anti-nuclear campaigners when legislation was passed in April 2015 under which radioactive waste sites would be considered "nationally significant infrastructure projects". The law, allegedly rushed through the day before Parliament was prorogued, without public debate, raises fears that the Secretary of State for Energy may be able to bypass or override local planning authorities on the location for the development of such a site.

54. There are also concerns with regard to the transport of nuclear waste across the United Kingdom. For example, waste is transported weekly over 400 miles from the decommissioned Dounreay civil nuclear reactor site in Scotland for treatment and storage in Sellafield. The road and rail journey passes through remote rural areas where it would be difficult to ensure a timely emergency response, as well as heavily populated regions, sometimes in close proximity to schools and residential areas. Some transports also take place by sea, apparently without being accompanied by an emergency vessel. Highlands Against Nuclear Transport, a citizen's movement challenging the lack of transparency or meaningful public consultation prior to the commencement of the transports in 2013, are demanding that nuclear wastes be stored at their site of production under constant monitoring and adequate security. They cite insufficient knowledge regarding the dangers of spent nuclear material and the potential catastrophe for human health and the environment in the event of an accident or terrorist attack.

55. In the meantime, the United Kingdom is planning to create more nuclear waste. As part of its climate change commitments, the Government announced plans in October 2010 to build eight new nuclear power plants over the following decade to provide power previously generated by coal, oil and gas stations (the policy does not apply to Scotland). Construction at a first site, Hinkley Point, has begun.

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[30] Department for Business, Energy and Industrial Strategy and Nuclear Decommissioning Authority, *Radioactive Wastes in the UK: A Summary of the 2016 Inventory* (2017).

[31] In January 2013, following a four-year process, the Cumbria County Council voted against an advanced "stage four" search for a site for such a facility.

[32] *Implementing Geological Disposal: A Framework for the Long-Term Management of Higher Activity Radioactive Waste* (2014).

56. The very grave risks posed to the rights to life and health strictly necessitate that all nuclear waste-related policymaking require meaningful participation and provide safeguards to protect the rights of present and future generations.

V. United Kingdom businesses and human rights, at home and abroad

57. The Guiding Principles on Business and Human Rights affirm that under existing international human rights law, States have the duty to protect against human rights abuses by all actors in society, including businesses domiciled in their territory or within their jurisdiction.

A. Criminal and other liabilities of business enterprises

58. While the United Kingdom has certain specific laws and common law rules to protect human rights in the context of business activities, for example the Health and Safety at Work Act 1974 and the Gangmasters (Licensing) Act 2004, comprehensive legislation to hold businesses to account for human rights abuses is lacking. While legislation provides for the criminal prosecution of a business enterprise, it is very difficult to prove the intent of a business, and the criminal justice system tends to focus on individual criminal liability, which can be difficult to attribute to a company. The Parliamentary Joint Committee on Human Rights, mandated to examine human rights matters within the United Kingdom, has recommended that the Government bring forward legislation to impose a duty on all companies, including parent companies, to prevent human rights abuses, with failure to do so becoming an offence, as under the Bribery Act 2010.[33] The United Kingdom also appears to suffer from insufficient expertise and resources to efficiently combat corporate crime.

59. With regard to United Kingdom businesses abroad, victims seeking accountability under United Kingdom law encounter even larger obstacles. Prosecutions are rare as parent and subsidiary companies are considered separate legal entities and courts appear reluctant to "lift the corporate veil". Furthermore, enforcement agencies admittedly tend to lack specialist knowledge or the resources to investigate toxic chemical and waste crimes committed abroad. The Government is also not proactive in ensuring that companies operate to the same standards outside the United Kingdom, stating in its National Action Plan on Business and Human Rights that "human rights obligations generally apply only within a State's territory or jurisdiction ... there is no general requirement for States to regulate the extraterritorial activities of business enterprises domiciled in their jurisdiction."[34] This view likely contributes to the human rights impacts of United Kingdom business abroad, some of which are discussed below.

60. With regard to international waste crimes, however, the Special Rapporteur was encouraged to learn that both the United Kingdom Environment Agency and Scottish public prosecutors have conducted investigations that have led to the successful conviction of United Kingdom businesses. In Scotland, for example, a waste operator was prosecuted and fined on 5 January 2017 for the illegal shipment of electrical waste to Nigeria in 2014 in contravention of the Transfrontier Shipment of Waste Regulations 2007. The Agency has also successfully prosecuted those responsible for several shipments of illegal waste to

[33] See *Human Rights and Business 2017: Promoting Responsibility and Ensuring Accountability* (2017).

[34] See *Good Business: Implementing the UN Guiding Principles on Business and Human Rights: Updated May 2016*, para. 11.

Africa, and has secured prison sentences. However, authorities have declined to pursue charges in certain cases, as discussed below.

B. National action plans and toxics

61. The United Kingdom has shown strong support for the Guiding Principles and was the first Member State to launch its National Action Plan on Business and Human Rights, in September 2013. This plan, which sets out guidance to companies on integrating human rights into their operations, was updated in May 2016.

62. Devolved administrations may also develop their own strategies to support the National Action Plan. In Scotland, a national baseline assessment on business and human rights was conducted to inform the creation of a Scottish National Action Plan, which is expected to be completed in 2018. There is, however, concern that political will and resources to see the plan through may be wavering, and that the environmental aspects of business activity may not be sufficiently taken into account. In Northern Ireland, the Business and Human Rights Forum has been established, with cross-departmental support, to share good practice and as a means of engaging with the United Kingdom National Action Plan.

63. In April 2017, the Parliamentary Joint Committee on Human Rights published its inquiry into the progress achieved by the United Kingdom towards implementing the Guiding Principles. Criticisms of the updated United Kingdom National Action Plan include that it is lacking in new commitments, lacks a timetable for meeting objectives and does not provide clarity on which government departments have responsibility for various components of the business and human rights agenda.[35] In the view of the Special Rapporteur, the National Action Plan is also exceedingly vague, referring very generally to business enterprises without setting out expectations or recommendations for specific sectors, such as chemical manufacturing groups, waste disposal companies and other enterprises dealing with hazardous substances.

64. In general, the United Kingdom approach to business responsibility is to provide support and guidance to industry-led initiatives that seek to avoid human rights risks, rather than rely on strong regulatory oversight or punitive measures. This dependence on reputational risk is evident in the revised National Action Plan which, for example, emphasizes a company's brand value in ensuring due diligence and the recognition that adherence to human rights reduces risks of litigation.

65. The United Kingdom recently amended the European Union Directive on the disclosure of non-financial and diversity information by certain large undertakings and groups (2014/95/EU). The regulation requires large "public interest" companies to disclose a range of non-financial information, including respect for human rights and environmental matters. The Government considers itself to be a standard-setter in this regard, with the Directive complementing existing national reporting regulations requiring companies to disclose specific information, including on human rights issues, through annual strategic reports. Aimed at ensuring greater transparency for shareholders, the strategic reports have led to improved levels of disclosure. For example, in its 2015 strategic report, British Petroleum provided information on the oil spill in the Gulf of Mexico, including developments in the settlement of claims, ensuring environmental restoration and efforts to improve oil spill preparedness and response. In its 2015 strategic report, EDF Energy Holdings Limited mentions issues such as health and safety and

[35] Ibid., para. 25.

nuclear liabilities risks, while Rolls Royce Holdings plc refer to adherence to the Global Supplier Code of Conduct and efforts to reduce waste and greenhouse gas emissions.

66. Nevertheless, the Special Rapporteur regards reporting on human rights-related matters as superficial because, for example it fails to provide details on the types of toxic chemicals used in production or disaggregated data on pollution and waste generated by an enterprise or its suppliers. Furthermore, reporting does not enable any meaningful assessment of progress or comparison between companies. The financial sector and investors are also not encouraged to assess the connections between pollution risks and human rights. It is apparent that the strong reliance of the United Kingdom on voluntary self-regulation and expectations that investors will review a company's human rights record do not constitute adequate safeguards, including ensuring transparency and traceability in supply chains. This is particularly relevant with regard to companies using or manufacturing toxic chemicals, which are often large multinational companies with overseas subsidiary bodies. Human rights due diligence speaks directly to the responsibility of chemical manufacturers to prevent human exposure to hazardous substances and wastes throughout the supply chain by, for example, conducting risk assessments of products sourced from suppliers, verifying the application and end use of their products and alerting downstream businesses to possible health risks.

C. Supply chains and impacts of United Kingdom businesses abroad

67. There are several cases of United Kingdom businesses failing to conduct adequate due diligence on the impacts of their activities and business relationships abroad with respect to toxic chemicals, pollution and waste.

1. Export of hazardous substances and wastes

Illegal dumping of waste

68. In a high-profile case dating back to August 2006, implicating the London-based trading company Trafigura Ltd. in the coordination of operations that led to the dumping of toxic waste in Abidjan, the United Kingdom failed to launch a criminal investigation. The disaster had a devastating impact on the health of the local community, with over 100,000 people seeking medical assistance and resulting in approximately 15 deaths. Despite evidence of corporate conspiracy to dump waste abroad under section 1A of the United Kingdom Criminal Act 1977, relevant authorities have not examined the case, claiming the lack of resources and capacity.

Export of substandard gasoline

69. Another concern that raised with the Special Rapporteur is the export of substandard fuels to West Africa that are prohibited in the United Kingdom and Europe because of their public health impacts. Major oil and commodity trading companies are allegedly producing cheaper, more toxic blended petroleum products specifically for export to West African countries, taking advantage of their weaker regulatory standards. These "blendstocks" contain high levels of sulphur as well as other toxic substances such as benzene and aromatics that increase air pollution and that have proven to be damaging to human health. It is illegal to export these fuels to African States that are party to the Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa.

70. Among several European companies implicated, British Petroleumor "BP" , which is headquartered in the United Kingdom, is alleged to be loading high-sulphur diesel from ports in Amsterdam for sale in Ghana, and it is also alleged that tankers are loading dirty

fuel in various locations in the United Kingdom, including Fawley, Immingham and Pembroke, for export to West Africa.

Export of banned pesticides

71. The United Kingdom hosts major production sites for global chemicals manufacturers, some of which produce toxic industrial chemicals and pesticides for export that are not allowed to be used in the United Kingdom and/or Europe. Often, these countries have far weaker governance structures for chemicals management relative to those in Europe. For example, Syngenta's plants in the United Kingdom produce the highly toxic pesticide paraquat, sold worldwide under the brand name Gramoxone. Paraquat was banned by the European Union in 2007. Syngenta disputes that the European Union "banned" paraquat and claims that it has sought to develop alternatives, but without success. Studies have linked chronic exposure to paraquat to grave impacts on human health, including lung damage and Parkinson's disease.[56]

2. Sale of dangerous consumer products

72. During the Special Rapporteur's visit to the Republic of Korea in 2015, he learned of the case of over 1,000 victims of an untested, underregulated consumer product. Unknowingly, consumers had added a toxic chemical disinfectant mixture to the water tanks of humidifiers, which led to over 90 deaths. Among the victims were numerous young babies and pregnant women, whose bodies were especially vulnerable to the disinfectant (see A/HRC/33/41/Add.1, paras. 30-45).

73. The vast majority of the product was sold by the subsidiary (Oxy) of a United Kingdom pharmaceutical company (Reckitt Benckiser), which certainly should have known the risks, regardless of the fact that it was in compliance with certain Korean laws at the time. The Special Rapporteur was pleased to hear from the Chief Executive Officer that he had offered a sincere apology to victims and made a commitment to stronger due diligence for toxic chemical-related risks. He also noted, with concern, Reckitt Benkiser's description of grave failures by the Korean chemicals manufacturer, SK Chemicals, which the Government of the Republic of Korea allegedly has inadequately prosecuted for wrongdoing.

3. Extractive industries

74. In 2015, the mining operation of the United Kingdom-based mining giant BHP Billiton in Minas Gerais resulted in what is described as the worst environmental disaster in Brazil's history. The collapse of the Samarco tailing dam belonging to a joint venture of BHP Billiton and Vale led to the release of 50 million tons of iron ore waste, containing high levels of toxic heavy metals and chemicals, contaminating soils and water systems over an 850-km area. That was not the first time the company had been implicated in human rights abuses related to its operations abroad: it was previously sued by a group of landowners in Papua New Guinea for dumping toxic mining waste in the Ok Tedi River, and has been accused of excessive water use at a copper mine in Chile.

75. The Special Rapporteur heard from BHP regarding its efforts to ensure access to justice and remedy to the communities affected by the Samarco dam disaster, including the rejection of an initial settlement due to a lack of consultation with affected communities.

[56] Public Eye, Pesticide Action Network UK and Pesticide Action Network Asia-Pacific, *Caused by Paraquat: A Bibliography of Documented Evidence* (2017).

VI. Access to justice and remedy

76. Seeking remedy in the United Kingdom can be extremely challenging for victims. The Special Rapporteur heard substantial evidence on the range of obstacles that obstruct access to remedies for victims of human rights abuses by companies related to exposures to toxic substances. These include changes to limit legal aid provision, limits on the recovery of legal costs, increases in fees and the otherwise high costs of civil action. In addition, court procedures have made it increasingly difficult to obtain access to corporate documents. In addition to severe difficulties in accessing information and the challenge of establishing legal causation, cuts in legal aid, limits on the recovery of legal costs and increases in court and tribunal fees in England and Wales have made it even more difficult for victims of pollution and contamination to seek remedy.[37] Furthermore, austerity measures have driven many local councils to withdraw funding from welfare rights services and law centres, often to be replaced by only a helpline or website. Victims abroad face even greater hurdles, confronted with the burden of proving that their claim falls within the jurisdiction of the United Kingdom.[38]

77. In 2009, England and Wales had the highest legal aid spent per capita in the world.[39] However, this changed in April 2013 when the Legal Aid, Sentencing and Punishment of Offenders Act came into force as part of a plan to cut £350 million a year in public spending. Under the Act, many categories of criminal and civil cases no longer qualify for legal aid funding. The year the Act came into force, there was a 46 per cent drop in the provision of legal aid.[40]

78. Low-income communities are among the most vulnerable to abuses. Despite assurances that vulnerable groups would not be affected by the cuts, many who previously could have claimed legal aid are now unable to afford lawyers or access legal advice. The Exceptional Case Funding Scheme, meant to ensure that legal aid remained available to the most vulnerable, has been criticized for failing to provide a safety net for those who were already experiencing the highest barriers in accessing justice.[41] Critics claim that this has led to a two-tier system in which justice is available only to those who can afford it.

79. With regard to Scotland, the Government's expenditure on legal assistance has diminished in the last 10 years and the system has been described as inaccessibly complex. With regard to legal assistance involving public interest cases, the Scottish Human Rights Commission has also highlighted that the threat of having to pay the opposing party's costs can present a significant barrier to bringing such cases.

A. Domestic examples

1. Health care and compensation for toxic exposures at the workplace

80. For workers who develop diseases from exposures to toxic chemicals at work, compensation, health care and other aspects of their right to an effective remedy can very often be unattainable. It is calculated that less than 1 per cent of sick workers receive compensation in the United Kingdom for non-asbestos-related occupational diseases.

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[37] *Ibid.*, p. 25.

[38] See Parliamentary Joint Committee on Human Rights, *Human Rights and Business 2017*.

[39] See www.newstatesman.com/politics/uk/2016/03/real-impact-legal-aid-cuts.

[40] Amnesty International, *Cuts that Hurt: The Impact of Legal Aid Cuts in England on Access to Justice* (2016).

[41] *Ibid.*, p. 32.

81. While the Health and Safety Executive has conservatively estimated that approximately 13,000 new cases of occupational disease arise each year, including cancers related to chemical exposure, alarming shortcomings in the United Kingdom compensatory system exclude many claimants due to disability thresholds, minimum exposure times and lack of recognition of elevated risks due to multiple exposures. The United Kingdom Industrial Injuries Advisory Council generally imposes a non-legal, non-scientific "relative risk" test, which requires that the condition be twice as common in the affected group as in the general population. Considering that this threshold is very difficult to meet, fewer occupational diseases are officially recognized in the United Kingdom compared with other countries that apply different criteria.[42]

82. In an example dating back to the 1980s, farmers and agricultural workers who believe they were affected by the use of organophosphate-based or "OP" pesticides in sheep dipping activities have faced severe difficulties in accessing an effective remedy. At the time, the United Kingdom Government ran a mandatory programme requiring farmers to chemically treat their sheep with pesticides to combat sheep scab. Most farmers used organophosphate-based dips to comply, as they were the only licensed products available initially. Organophosphate compounds were initially developed as neurotoxic chemical warfare agents due to their ability to inhibit blood cholinesterase activity.[43]

83. Over the next two decades, farmers reported a range of debilitating health problems which they believed to be the result of poisoning from the organophosphate-based products, with symptoms including nausea, anxiety, pulmonary oedema and long-term neurological damage. Victim support groups compiled a list of more than 500 farmers believed to have suffered from ill health as a result of their exposure, although campaigners claim the real number to run in the thousands. Victims struggled to access appropriate treatment under the public health regime, as organophosphate poisoning was not considered to be a medical condition. Some were allegedly wrongly diagnosed as suffering from psychological issues and given medications that exacerbated their suffering. A number of individuals who were medically tested by the Government claim they experienced serious difficulties in obtaining the release of their medical records.[44] The difficulty in establishing causation between chronic ill health and the use of organophosphate-based pesticides has seen many legal claims fail.

84. In 2015, an internal report of the Health and Safety Executive of May 1991 was released under a freedom of information request, which established that government officials had warned of the dangers of exposure to organophosphate-based pesticides. Yet in the same month, the Minister of Farming demanded that local authorities clamp down on farmers who refused to use the chemical. The release of the internal report triggered calls by more than a dozen Members of Parliament for an inquiry and public debate into whether farmers were misled over the use of organophosphate-based pesticides.

85. Officials of the Department for Environment, Food and Rural Affairs explained that no precaution could ever offer 100 per cent protection from any exposure to organophosphate-based pesticides, and explained the difficulty in predicting exposure levels. In the May 1991 report, manufacturers of the sheep-dipping chemicals were

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[42] For example, Canada, Australia and several European countries, in particular Denmark. Andrew Watterson, "Double trouble on relative risk for occupational diseases", *Hazards Magazine* (March 2015).

[43] The programme was halted in 1992.

[44] In the year and a half preceding the time of writing, 20 documents were released with the help of the Department for Environment, Food and Rural Affairs. They contain medical results, but not the names linked to them.

criticized for providing inadequate protective measures and instructions for the use of the product. At the time, legislation and guidance to ensure the protection of agricultural workers using the organophosphate-based pesticides placed the burden on farmers to protect themselves. Since 1995, the sale and supply of organophosphate-based pesticides have been restricted to appropriately trained and certified users. The Veterinary Medicines Regulations 2006 introduced a requirement for sheep dipping to be supervised by a holder of a certificate of competence.

86. The United Kingdom Government stated that it has invested a considerable amount of time and public money to understand all the risks relating to those compounds and determine how they could be minimized, and that it has been unable to identify any causal link between exposure to organophosphate-based pesticides and the symptoms reported. The Special Rapporteur was also referred to a statement on organophosphates issued by the Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment in 2014, which concluded that exposures to cholinesterase-inhibiting organophosphates that are insufficient to cause overt acute poisoning do not cause important long-term neurological toxicity in adults. However, a number of medical experts have spoken out about the use of organophosphate-based sheep dips and the high number of incidents of chronic ill health within the farming community. One independent study, which reviewed the available evidence concerning the neurotoxicity of low-level occupational exposure to organophosphate-based pesticides, found that 13 out of 16 studies showed evidence of neurological problems following long-term, low-level exposure.[45] The United Kingdom Government stated that the Committee had reviewed this study, reaching its conclusion in 2014.

2. Local communities

87. The unavailability of protective costs for many claimants is an insurmountable obstacle. In the case of the above-mentioned Fos y Fran opencast coal mine, an affected resident sent a communication to the Compliance Committee under the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), claiming a violation of the Convention by the United Kingdom for failing to ensure that members of the public are not excluded from court procedures by prohibitive expense. The Compliance Committee found the United Kingdom to be in breach of its obligation to ensure access to justice by, in essence, excluding the public from court procedures by prohibitively expensive cost requirements. However, the United Kingdom continues to fail to provide protective costs to allow individuals or community groups access to affordable legal procedures for pollution disputes, including private nuisance claims.

B. International examples

88. The above-mentioned Trafigura waste dumping case is an encouraging example of justice successfully accessed in the United Kingdom for crimes committed abroad. A group action by approximately 30,000 claimants from Cote d'Ivoire against Trafigura Ltd. was heard by the High Court of Justice in London in November 2006. In September 2009, the parties reached a settlement, with Trafigura agreeing to pay each of the 30,000 claimants approximately $1,500.

[45] Sarah Mackenzie Ross, "Neurobehavioral problems following low-level exposure to organophosphate pesticides: a systematic and meta-analytic review", *Critical Reviews in* Toxicology, vol. 43, No. 1 (2013).

89. In another example, in 2008 and 2009, two large oil spills caused by ruptures in pipelines owned by the Anglo-Dutch company Royal Dutch Shell devastated the environment in Ogoniland in the Niger Delta region of Nigeria. In March 2012, members of the affected Bodo community filed a lawsuit against Shell in the London High Court, seeking compensation for damages suffered to their health, livelihoods and land, and demanding clean-up. While Shell admitted that its Nigerian subsidiary, the Shell Petroleum Development Company, was liable for the spills, it argued they were caused by theft and sabotage. In a preliminary hearing, held in April 2014, the Court ruled that Shell could be held responsible if it failed to take reasonable measures to protect pipelines from malfunction or oil theft. While the case was expected to go to trial, Shell agreed to a £55 million out-of-court settlement in January 2015. Nevertheless, it is understood that clean-up operations by Shell and its subsidiary failed to meet minimum standards, with land remaining heavily contaminated and drinking water polluted.

90. In a worrying setback for victims of toxic pollution, the United Kingdom High Court ruled on 26 January 2017 that two separate legal actions brought by Nigerian communities against Shell and its subsidiary could not be heard in the United Kingdom. The claims asserted that Shell controls and directs its 100 per cent-owned Nigerian subsidiary and should therefore ensure that its operations do not systematically pollute the environment. However, the High Court ruled that the suit did not establish legal responsibility of the parent company for its subsidiary's actions and that the United Kingdom did not have jurisdiction over claims brought by Nigerian citizens for breaches of statutory duty in Nigeria by a local company. It is expected that the communities will appeal the ruling. If upheld, it will establish an extremely dangerous precedent that will give United Kingdom multinationals the green light to commit human rights abuses abroad with impunity, and deny communities affected by toxic pollution justice or remediation.

VI. Conclusions and recommendations

91. **The United Kingdom stands at a critical juncture as it prepares its exit from the European Union. As it stands, the country is already grappling with significant challenges relating to hazardous substances and wastes that have negative implications on human rights. Air pollution, toxic legacies, the transnational impacts of United Kingdom businesses abroad and decision-making, which impose very real risks on affected communities, for example in relation to fracking and storage of nuclear waste, all require more stringent regulations and enforcement mechanisms to prevent human rights abuse.**

92. **There is a very real risk that the additional demands placed by Brexit will compound these weaknesses and place further strains on the complex governance structure and stretched resources of relevant regulators. It is crucial that the citizens of the United Kingdom, who often already suffer from lack of information, participation and effective remedy when it comes to exposure to toxic substances, do not fall victim to lower protections and human rights standards as a result of Brexit.**

93. **The Special Rapporteur therefore recommends that the Government:**

(a) **Ensure the integration of human rights in decision-making and guarantee greater transparency and clarity as to which bodies are responsible for the management and regulation of hazardous substances and wastes, including effectively communicating to the public to whom they may address their concerns in relation to alleged human rights violations;**

(b) **Ensure that austerity measures do not hinder the functions of environmental regulators and other relevant authorities to protect the citizens of the United Kingdom from the harmful effects of toxic chemicals and wastes;**

(c) **Ensure that adequate safeguards are in place to prevent Brexit from initiating a regression on human rights and environmental standards. The Government is encouraged to negotiate that it remain within European Union systems such as REACH and to continue to abide by the evolving air quality standards of the European Union, including its Clean Air Policy Package;**

(d) **Reconsider the recommendation by the Environmental Audit Committee to legislate a new Environmental Protections Act for Brexit to ensure standards that are equal to or higher than those afforded by European law;**

(e) **With regard to new trading opportunities, continue to uphold human rights standards, where possible higher than those contained in European Union trading agreements;**

(f) **Implement a robust clear air plan without delay, heeding recommendations by specialists on the most effective methods to cut air pollution, for example by developing an extensive network of clean air zones across the country;**

(g) **Impose stronger and more coherent regulations on fracking to minimize its negative impacts and ensure that local decision-making on authorization and permitting is coupled with thorough, transparent assessments which fully consider the human health, environmental and human rights implications;**

(h) **Ensure adequate resources to adequately monitor eroding toxic landfill sites and implement an effective response strategy with specific standards to assess their pollution risks and remediation goals;**

(i) **Reconsider national plans to increase reliance on nuclear energy, considering that long-term storage of nuclear waste is uncertain and poses significant risks to the population;**

(j) **Supplement the National Action Plan on Business and Human Rights with specific recommendations to business sectors implicated by toxic chemicals, including chemical manufacturing groups and waste disposal companies, for due diligence, and impose in-depth reporting requirements on human rights and pollution risks at home and abroad;**

(k) **Draft legislation similar to the Bribery Act 2010, targeting companies that produce or use toxic chemicals and making the failure to prevent human rights abuses a criminal offence;**

(l) **Replicate the Modern Slavery Act to generally ensure due diligence by companies throughout their supply chains, in particular companies whose activities have toxic implications;**

(m) **Reinstate legal aid and ensure that protective costs are available for victims of toxic chemical pollution, and remove obstacles to accessing information relevant to their human rights;**

(n) **Examine the obstacles to the right to effective remedy by workers and other victims suffering from toxic exposure, including causation, and ensure that victims of United Kingdom companies operating abroad are able to access justice and remedy in the United Kingdom.**

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Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development

Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes on his mission to the United Kingdom of Great Britain and Northern Ireland: comments by the State*

* Reproduced as received.

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Governance

Paragraph 8 – Comments from the Welsh Government

There are no regulations which specify 500m buffer zones in relation to opencast coal sites. There are policy mechanisms in place via Minerals Technical Advice Note 2 Coal (MTAN 2) which state that local planning authorities should identify buffer zones in their Local Development Plans, defined as 500m around permitted or proposed working, from the site boundary (or boundary for surface development for underground mining), unless there are exceptional circumstances (paragraph 32). It goes on to say) that, exceptionally, having considered the evidence put forward with a surface or underground coal working application, coal working may be permitted within 500m of settlements and lists the factors to be considered (paragraph 49). MTAN 2 can be found at: http://gov.wales/docs/desh/policy/090120coalmtanen.pdf

Public Health Wales are not aware of any recent concerns of cancer clusters or childhood asthma in the area. Asthma rates in Merthyr are no higher than other parts of Wales or the Welsh national rate see Public Health Observatory Report "Health of Children and Young People 2013" http://www.publichealthwalesobservatory.wales.nhs.uk/child-profile-overview

Paragraph 9

Comments from the Welsh Government

In relation to the first sentence, Air Quality input:-

"Local Authorities (LAs) in Wales tackle air quality issues at a local scale through the Local Air Quality Management process (LAQM). LAQM requires LAs to review and assess air quality, producing remedial action plans where air quality is found to be poor. Separate to this, LAs have duties to investigate nuisance smoke, fumes, odours and dust complaints made by members of the public.

If after having contacted a LA a member of the public feels the LA has not acted in accordance with its duties, a formal complaint can be submitted to the LA. If the response from the LA is felt to be unsatisfactory, members of the public can complain further to the Public Services Ombudsman for Wales."

The SR was also interested in how the cumulative impacts of different sites are taken into account when determining new development and the role of Public Health Bodies in working together and decision making. Officials outined the dual regulatory regime for authorising waste activities with local authority planning system controlling the development and use of land, imposing requirements on a developer to control impacts on the local environment and amenity and the environmental permitting regime protecting the environment and human health by controlling the day-to-day operations at a site. Officials explained how the consultation process on a new permit application engages with local communities seeking their views on the potential impacts and the role of Natural Resources Wales to grant or refuse permit applications. Officials cited Cwmfelinfach as a recent example of regulatory bodies working together and taking advice from Public Health Authorities to consider air quality concerns raised by the local community.

"authorities have not conducted independent health assessments since mining activities commenced"

Note - this is incorrect:

PHW HIA:

In 2007 a HIA was developed, led by a local interest group; it was supported by the Wales **Health Impact Assessment Support Unit** WHIASU) but the LHB and local council also contributed. It was published by the Ffos y Fan HIA steering group:

http://www.wales.nhs.uk/sites3/Documents/512/FYF%20Final%20report%20June%2007.pdf

However it is worth emphasising the problems of undertaking small area health studies since, although perceived to be helpful in some respects, they often raise more questions than answers due to their many limitations. Single site studies on health are unlikely to have sufficient

statistical power to confirm of refute assertions of effects and there is a significant risk that the results of such investigations will be impossible to interpret. Due to the limits of statistical tests, when distinguishing between random fluctuations in the number of cases of a disease and a statistically significant increase in disease, around one in twenty tests will produce a false positive result.

Other small area health study issues and limitations include:

- data confidentiality, data protection rules and regulations;
- the number of health events over short periods in small areas is often very small;
- the population of small areas often changes substantially over small time frames;
- boundary changes to small areas occur relatively frequently; and
- large numbers of comparisons will produce many high or low results due to chance.

In addition, it would not be possible to attribute small area study findings to a specific cause i.e. in this case, exposure to air pollution. The occurrence of health outcomes may be influenced by numerous other contributing factors and stressors and it is extremely difficult to account for all potential confounders. Identifying a suitable comparison population group is also problematic.

COMEAP:

The Committee on the Medical Effects of Air Pollutants (COMEAP) advises the government on all matters concerning the health effects of air pollutants.

"Merthyr Tydfil local authority has confirmed that dust samples have been taken and examined from Ffos-y-fran on a number of occasions. The severity of the dust deposition has not, when compared with available guidance, exceeded nuisance levels. Legal action has not been necessary and remedial action had been required on an informal basis.

There have been no exceedances of the Government's annual PM10 air quality standard measured at Twynyrodyn Infants School. PM2.5 is also measured at this site with similar findings.

The local authority acknowledge that the company's operations are capable of causing complaint during daytime working. Complaints are usually associated with the operation of heavy earthmoving equipment or fog cannon (dust suppressors). The company have been asked to modify their activities on occasions and this is generally effective.

In all investigations of emissions from the site the Council makes reference to current national standards. In addition to the planning limits set for the site, the Government air quality standard for particulates, nuisance standards relating to environmental noise and dust exposure are applicable. The site is also subject to and compliant with the Prescribed Process Control Standards."

Paragraph 10 - Comments from the Scottish Government and Scottish Environment Protection Agency (SEPA)

Scottish Government

Members of the Avonbridge and Standburn Community Council from the Falkirk area have been regularly in contact with Scottish Government, Scottish Water and Scottish Environment Protection Agency (SEPA) officials for the last few years. They have reported many odour issues in their area but in most of these instances, the odour was proven to be caused by other farm "materials" such as slurry etc.

Any reported instances of spillages, leeching and adverse odour are investigated and monitored closely by SEPA. Again, many of these reports were not directly attributable to sewage sludge.

However, in light of continued correspondence from the community council, Scottish Government Ministers commissioned a review of the legislation and management practices relating to the spreading of sewage sludge to land. The review findings highlighted that the existing legislation required updating and 25 recommended courses of action were developed. The proposed legislative changes which will tighten up the waste management aspect (e.g. transportation and storage) and ensure greater duty of care throughout the production chain. It

is hoped these measures will be introduced into Scots law later this year. The representatives of the community council who met the Special Rapporteur were consulted on a regular basis throughout the process.

With regard to the claims that the use of sewage sludge can cause harm to human health, there is no current factual evidence to back this up. However the review considered that the last report on the potential effects to health, which is the existing SNIFFER report published in 2008 and from which the Scottish Government bases its opinion on, needed to contain more robust and up to date data. The report will include a particular focus on the effects of odour on communities.

SEPA

- Companies applying sludge to land are not self-regulating. There are a range of legislative and non-legislative controls which apply to the use of sewage sludge on agricultural and non-agricultural land in Scotland. This includes the Sludge (Use in Agriculture) Regulations 1989 and Waste Management Licensing Regulations 2011. SEPA enforces these regulations.
- SEPA supports the use of sewage sludge on land in accordance with regulations and guidance as this is the Best Practicable Environmental Option. The only real alternative to land application is combustion or disposal to landfill.
- SEPA has received and investigated complaints across Scotland in recent years related to sludge storage and application to land. Many of the issues stem from odorous materials and inappropriate storage or application to land.
- It is clear to SEPA that sludge use on land has negatively impacted some communities and that regulatory controls should be improved.
- The on-going implementation of the Sludge Review carried out by SGov and SEPA and the on-going development of new regulations will change the way SEPA regulates the use of sewage sludge.
- This sludge review in 2016 produced a suite of recommendations relating to the use of sewage sludge, which included a recommendation to improve the existing legislation through the Scottish Government's Better Environmental Regulation Programme. This work is currently being progressed jointly with SGov and SEPA.
- Since 2007 SEPA has carried out risk-based soil compliance monitoring to allow the effects of organic material application on soil quality indicators to be monitored, and compliance with the soil limit values set out in the 1989 Regulations to be audited. Between 2007 and 2014, SEPA sampled soils from 215 fields spread with sewage sludge at 70 farms located throughout Scotland. Soil analysis results found a small number of breaches of PTE limits specified in the Sludge Regulations in spread fields; nickel (2.8 % of samples) and zinc (2.3 %) were the PTEs most likely to breach limits.
- Health assessments on sludge have been conducted, and an update has already been commissioned by the SGov:
- A literature review for the EC in 2005 stated that despite a number of studies on possible adverse health effects to the public in the vicinity of sludge spreading operations there have been no unambiguously demonstrated adverse consequences to the public as a result of aerosols from properly conducted treatment and recycling operations.
- A desk-based literature review of the human health impacts of spreading sewage sludge on non-agricultural land was carried out by medical experts from the University of Aberdeen in 2008 for Project partners: SNIFFER, SEPA, NIEA, Scottish Government, Forestry Commission and Health Protection Scotland.
- Scottish Gov are currently commissioning a new project to provide an update entitled "The Impacts On Human Health And The Environment Arising For The Spreading Of Sewage Sludge To Land"
- The earlier 2008 report included the following conclusions:

- Many studies in this area, for both occupationally and non-occupationally exposed populations, suffer from small sample sizes. This limits the ability of such studies to identify small levels of risk in the exposed populations and thus runs into the problem of believing that effects do not occur whereas they do but at low level.
- For non-occupational exposures, either as residents or as by-standers, there was only one formal trial of exposure which showed no increases in markers of ill health in the exposed population. Overall, this limited literature is conflicting but shows no consistent effect on health from living near sewage treated land.
- Odour is the main complaint of populations non-occupationally exposed to sewage sludge.

Paragraph 15

"While the Environmental Audit Committee requested the Government, prior to triggering Article 50, to legislate a new Environmental Protections Act to ensure equal or higher standards afforded by European law, this request was not heeded. The Government's decision to trigger Article 50 without clarifying the technical details of the transposition of EU law, may pose a real danger the country will be left without a clear framework at the time of Brexit to ensure similar levels of protections currently provided by the EU."

Note - The Repeal Bill will ensure that the whole body of existing EU environmental law continues to have effect in UK law.

Without pre-judging what our future relationship with the EU will be or future decisions Parliament may make, this will give consumers, workers and businesses as much certainty as possible by maintaining the existing laws wherever practicable and desirable.

Defra has over 1100 core pieces of directly applicable EU legislation and national implementing legislation to consider. While some policy areas (such as chemicals) may be more complex to convert, because they rely on EU systems, we are confident that we will be able to address these issues.

Paragraph 18

"Yet lack of clear guarantees, in particular to keep up with presumably Strengthening EU standards of human health and environmental protection over the coming years, and statements such as those made by the Parliamentary Under-Secretary of State for Environment, Food and Rural Affairs that existing laws would be maintained "wherever practical and desirable", are worrying."

The Repeal Bill will ensure that the whole body of existing EU environmental law continues to have effect in UK law providing businesses, communities and stakeholders with maximum certainty as we leave the EU.

We will then have the opportunity, over time, to ensure our legislative framework is outcome-driven and delivers on our overall commitment of improving the environment within a generation.

Paragraph 19

"Should the Government fail to equal the EU on air quality controls"

Note - The UK currently meets its commitments under European legislation on local concentrations in relation to all air pollutants with the exception of nitrogen dioxide. This is in common with 16 other European member states. The UK situation is part of a wider problem with sixteen other European Union (EU) countries, alongside Norway and Serbia, recording NO2 concentrations above the annual mean limit value, at one or more monitoring sites in 2014.The main reason for non-compliance is the failure of Euro emission standards for diesel cars to deliver the expected emission reductions of NO2 in real world driving conditions.

Paragraph 20

Comments from the Welsh Government

The reference to "the Government" refers to the evidence given by the Defra Minister, Therese Coffey MP, who only speaks for environmental policy in England. The environment and public

health are devolved matters. Lesley Griffiths AM, Cabinet Secretary for Environment and Rural Affairs in Wales, wrote to the Environmental Audit Committee Correspondence between Lesley Griffiths Mary Creagh chemical regulations brexit, setting out the Welsh Government's position on chemicals regulation following our exit from the EU.

Comments from the Scottish Government

The Scottish Government's Cabinet Secretary for Environment, Climate Change and Land Reform, Roseanna Cunningham MSP, has publicly stated that Scotland's approach to environmental policy is founded on certain core environmental principles such as polluter pays, source control and the precautionary principle. These principles will remain the foundation of Scotland's approach to environmental protection in a post-EU era - although Scottish Ministers will also look for opportunities to improve existing approaches, if they will deliver better outcomes for our environment.

Comments from UK Government

"In an inquiry published by the Environmental Audit Committee in April 2017 on the future of chemicals regulations, most respondents (including industry, environmental champions and the Welsh Government) expressed the wish to stay closely aligned to REACH. However, the UK Government informed the Committee that it has no intentions to remain fully involved, considering REACH is a single market mechanism. Recognising that relinquishing REACH membership while maintaining access to the single market implies establishing a costly stand-alone system, the Committee has urged the Government to at a minimum negotiate remaining within REACH's data sharing and registration process system."

The UK is strongly committed to effective and safe management of chemicals and pesticides. That will not change when we leave the EU.

The Repeal Bill will incorporate current EU law into domestic law and allow it to be corrected in order to operate properly, giving consumers and businesses as much certainty as possible. This includes regulations relating to chemicals.

While the UK remains a member of the EU we will continue to fully participate in the work of the European Chemicals Agency.

As part of the exit negotiations the Government will discuss with the EU and the 27 Member States how best to continue cooperation in the field of chemicals regulation in the best interests of both the UK and the EU.

It would not be appropriate to pre-judge the outcome of the negotiations.

Air pollution

Paragraph 23

"Air pollution continues to plague the United Kingdom. Over 40,000 premature deaths per year are estimated to occur in the country, with over 9,000 in London alone."

Note - Suggest reference to the following: Royal College of Physicians, '*Every breath we take: the lifelong impact of air pollution*', 2016

www.replondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution

Paragraph 24

"Children, older persons and people with pre-existing health conditions are at grave risk of mortality, morbidity and disability from air pollution, with magnified risks among poor and minority communities."

Note – Regarding the 'magnified risks' there is no evidence to support this assertion in Scotland.

Paragraph 25

"While the Environment Act 1995 requires the United Kingdom Government, Scotland and Wales (with equivalent legislation in Northern Ireland) to produce a national air quality strategy, it also sets provisions for local air quality management, obliging local authorities to prepare plans but not to carry out the measures described in those plans"

Under Part IV of the Environment Act 1995 Local authorities are required to review and assess local air quality through the statutory local air quality management (LAQM) system. Where a Council identifies areas exceeding statutory limits and there is relevant public exposure, it is required to declare the geographic extent of exceedance an air quality management area (AQMA) and to draw up an action plan detailing remedial measures to address the problem.

Also note that Domestic biomass use is regulated by the Clean Air Act 1993. The Act grants local authorities powers to declare Smoke Controlled Areas in which emissions of smoke from the chimney of a building are banned unless the occupier is using an authorised fuel or exempted fireplace. Smoke control areas have been introduced in many large towns and cities in the UK.

The 95 Act also requires LA to work towards, rather than comply with, the air quality objectives, so there is no legal recourse for an LA not meeting the air quality strategy requirements.

Paragraph 29

This has to be clear that it was the Secretary of State for the UK Government that was taken to court and we would suggest the following wording to clarify that.

"Accusing the Government of limiting itself to five Clean Air Zones because of cost implications and using inaccurate air pollution modelling forecasts, ClientEarth took the Secretary of State for the Environment, Food and Rural Affairs back to the High Court in a judicial review, and in November 2016 the Court found the Government's plan to be insufficient to comply with the European Union Directive. The Court ordered the Secretary of State to take measures to improve air pollution as soon as possible, and to develop a plan by 31 July 2017."

Paragraph 30

"A new plan to mitigate air pollution was published in July 2017. The 2017 plan is presented as "delivering cleaner air in the shortest time possible." While many considerations must be taken into account, the latest plan does not convey the necessary urgency to protect the rights of children, older persons and other sensitive groups. For example, key details of the plan will not be finalized until December 2018 by local authorities. In doing so, local authorities are discouraged from using "charging zones," which the Government itself determined is the fastest, most effective way to reduce air pollution levels. Leaders of at least six city councils claim measures will not enable their cities to stay within legal limits on air pollution."

Note – The government has published a UK plan for tackling roadside concentrations of nitrogen dioxide (July 2017) the objective of which is to achieve statutory limit values within the shortest possible time. The government identified clean air zones with charging as the measure it is able to model nationally which will achieve the outcome above; the implementation of charging zones takes several years. The government believes that if local authorities in England can identify other measures, which are at least as quick and effective in reducing roadside concentrations of nitrogen dioxide, these measures should be preferred. The government has placed a statutory requirement on specified local authorities to develop initial and final local plans as soon as possible and at the latest by 31 March and 31 December 2018 respectively, and announced a £255 million implementation fund available to support them.

Paragraph 31

The Special Rapporteur is alarmed that despite repeated judicial instruction, as well as recommendations by the Committee on the Rights of the Child (see UN/C.G/GBR/CO/5, paras. 68-69) the United Kingdom Government continues to flout its duty to ensure adequate air quality and protect the rights to life and health of its citizens."

Note – Air quality has improved significantly over recent decades and will continue to improve thanks to the action the Government has already taken. This began with the Clean Air Act in 1956 and will continue. Implementing our strategy to work towards our ambitious international emission reduction targets for five damaging air pollutants by 2020 and 2030 will further improve health and the environment.

Fracking

Paragraph 32

The figure of 200 has come from a Friends of the Earth online petition which is unsubstantiated. Suggest including in our response that:

"Shale gas development is at an early stage in the UK. The UK Government is encouraging its exploration in England, while the devolved administrations carry out further evidence gathering to determine its potential to provide greater energy security and growth. The Scottish Government's focus is understanding the full range of potential impacts from the industry. Although yet unknown what volume of shale gas will be practically producible, 73% of the area in England identified as having potential by the British Geological Society has been licensed. This gives companies exclusive rights to explore for and develop oil or gas in a particular area. However drilling and fracking cannot take place without a number of other permissions which must be obtained from the regulators and UK Government."

Paragraph 36

We suggest that the UK response makes the following points:

The Environment Agency will not permit the use of 'hazardous substances' (as defined by the Water Framework and Groundwater Directives) for any activity, including hydraulic fracturing, where they would or might enter groundwater and cause pollution. The aim is to ensure that hazardous substances are prevented from entering groundwater and that any contamination by non-hazardous pollutants is limited. The chemicals used in shale gas fracturing fluid are widely used in other industrial processes. Any chemicals proposed for use in shale gas extraction fluid must be publicly disclosed and will also be risk assessed prior to use by the Environment Agency, with subsequent peer review by the joint agencies groundwater directive advisory group (JAGDAG). The storage, transport and treatment of wastewater will be subject to environmental permits in line with the regulation of other industrial waste waters.

Paragraph 37

Your report's reference to the New York State Dept. of Health review:

You cite the review's "finding" that links between unconventional gas extraction and adverse health outcomes have been established. In fact, the review presents a more measured analysis of the available evidence, noting on p23: "[…]that the presentation attributes up to 27 cases of symptom complaints as plausibly associated with a source of exposure in either air or water. However, there is no environmental exposure assessment presented in support of the claimed associations. No air or water monitoring data are presented. The symptoms reported are common in the general population and can have many causes. The sample is self-selected, and there was no systematic assessment of baseline health status or comparison with a similar non-HVHF population. There is no information presented indicating that the analysis attempted to account for potential confounders or other existing exposure sources.

In the conclusion for the health and environmental literature section (p41) the report states: "Many of the published reports investigating environmental and health implications of HVHF activities are preliminary or exploratory in nature. As a result, the available science on HVHF currently is limited and largely suggests hypotheses about potential impacts that need further evaluation."

We would suggest inserting the following after "…chemicals used in fracking.":

"The New York Study presented no environmental exposure assessment in support of the claimed associations and no air or water monitoring data were presented. The symptoms reported are common in the general population and can have many causes. In addition the sample was self-selected, and there was no systematic assessment of baseline health status or comparison with similar populations in other countries."

The report's reference to Health Protection Scotland's 2016 report:

The Health Protection Scotland report summary notes that there were relatively few epidemiological studies available on the topic. The small quantity of material available was of variable quality and was characterised by contradictory and inconsistent findings. This

evidence base was therefore "inadequate" to determine if there was a general association between unconventional oil and gas activities and health impacts. Specific studies provided "inadequate" evidence of association between unconventional oil and gas activities and effects on reproductive and developmental health, childhood cancer, or adverse neurological, cardiovascular, or dermatological health outcomes.

We suggest the following addition after "...quality of groundwater drinking surfaces."

"The Health Protection Scotland report found evidence that UGE presents a number of environmental hazards (potential sources of harm including water borne and air hazards; however, there was either insufficient or limited evidence of such hazards leading to health impacts. A notable exception was evidence that respirable crystalline silica, a component of fluids used in hydraulic fracturing processes, occurred at levels that could pose a risk to UOG workers' health. The report notes that a precautionary approach to UGE should be adopted, and that this could include measures involving operational best practice, regulatory frameworks and community engagement."

"Public Health England has assessed the risk to human health of extracting shale gas. It evaluated available evidence on issues including air quality, radon gas, naturally occurring radioactive materials, water contamination and waste water. It concluded that "the risks to public health from exposure to emissions from shale gas extraction are low if operations are properly run and regulated." See the Public Health England report.

Paragraph 38

Your report's reference to the 2014 report by RSPB:

A study conducted by the Royal Society for the Protection of Birds and a number of other wildlife charities in the UK concluded that many different aspects of fracking would negatively affect wildlife and reduce available water resources."

We suggest the following response:

"Evidence for the report was taken from extrapolating the high activity scenario in the Strategic Environmental Assessment Report by AMEC. In the high activity scenario, water consumption was estimated at a rate of up to 9 million cubic metres per annum, an increase of nearly 18.5% on the approximate 49.5 million cubic metres of mains water supplied to the energy, water and waste sectors annually but substantially less than 1% of total UK annual non-domestic mains water usage. The RSPB report further commented 'amounting to a total of 164 million m³ over a 20-year period'. This is likely to be a significant overestimation."

Paragraph 39

Use of water

We would also like the following to be noted.

The regulation of water abstraction is in place to balance the demands of users (including industry, agriculture and households) with the needs of the environment. The EA produces a Water Resources Strategy, which sets out how water resources should be managed throughout England to 2050 and beyond to ensure that there will be enough water for people and the environment.

In England, the EA regulates the abstraction of water by location and demand. An operator can obtain water for hydraulic fracturing from its local water company, or, if it intends to abstract more than 20 cubic metres a day from a watercourse or groundwater, it must apply for an abstraction licence from the EA. To date only one operator has carried out hydraulic fracturing exploring for shale gas (Cuadrilla, at Preese Hall, Lancashire). It sourced water from the local water utility company.

If there is not enough water locally, taking into account the needs of all other users and the needs of the environment, the water company would not be able to provide the full amount requested by the operator for the period it is required. The EA would not allow companies to abstract an amount of water that would affect other users and the environment.

Flowback fluid can be treated and re-used as fresh injection fluid for the purpose of hydraulic fracturing and the EA considers this to be a suitable environmental option. Re-use serves a dual

purpose: reducing the volume of freshwater required for hydraulic fracturing, and reducing waste water generated from the operations. Re-use, where reasonably practicable to do so, is required to meet the Mining Waste Directive obligation to minimise waste. The recycled fluid must be treated to the point where it performs the same function as fresh injection fluid and will still be subject to conditions on the environmental permit. Cuadrilla intends to re-use the flowback fluid from hydraulic fracturing at Preston New Road in Lancashire. See https://consult.environment-agency.gov.uk/onshore-oil-and-gas/information-on-cuadrillas-preston-new-road-site/supporting_documents/Cuadrilla%20Preston%20New%20Road%20Decision%20Document_and_Annex%20Mining%20Waste%20Permit%20AB3101MW.pdf

Planning authorities have placed restrictions through land use consenting on operations in environmentally sensitive locations at certain times e.g. during breeding seasons.

The assertion that UK regulations on fracking are complex and split between several regulators and do not appear to be sufficiently stringent

The UK has over 50 years' experience regulating the onshore oil and gas industry, and measures are in place to ensure on-site safety, prevent environmental contamination, mitigate seismic activity and minimise emissions. Our system is robust and we are among the world leaders in well regulated, safe and environmentally sound oil and gas developments. We have undertaken to keep our regulatory framework under review as the shale industry develops.

Our system uses existing regulators with long-standing experience of regulating across different sectors in their area of expertise, which enables them to apply their specialist knowledge effectively. The regulations a shale gas operator must meet in England are set out in the regulatory roadmap, which is publically available online[1]. This was published in December 2015 and is currently in the process of being updated to reflect additional regulatory steps, such as the need for an operator to obtain Hydraulic Fracturing Consent from the BEIS Secretary of State. The Environment Agency (EA) and the Health and Safety Executive (HSE) have produced a joint working statement setting out how they work together to ensure a joined-up approach, and that there is appropriate monitoring and inspection of operations. The EA and PHE also have a working together agreement in relation to environmental permitting (EA and PHE Working Together Agreement).

The EA, HSE and OGA conduct joint workshops to share experiences and learning, raising competence and ensuring coordinated and holistic working. A recent example: EA regulators attended well integrity training courses delivered by experienced HSE well inspectors in Aberdeen in March 2017. HSE/EA held a regulatory workshop in November 2016 with representatives of other UK environment regulators, OGA, PHE and Natural England to discuss the regulatory approach. EA, HSE, OGA and also the local Mineral Planning Authority (MPA) and Public Health England (PHE) come together to hold community liaison and information group meetings. EA, HSE, OGA and PHE have joined up with the Planning Advisory Service to deliver training to local councillors. Over 100 of these training and public engagement events have been held in England since 2013. Feedback from the engagement has been positive and strongly suggests that attendees value the opportunity to learn more about the regulatory regime.

The regulators are highly experienced in working together, to regulate the oil and gas industry and other sectors, e.g. (the EA's Nuclear Regulation Group works with the Office for Nuclear Regulation and; the HSE works with various agencies to implement the Control of Major Accident Hazards (COMAH) Regulations.

The 2012 review of hydraulic fracturing by the Royal Society and the Royal Academy of Engineering states (p5): "The UK's goal based approach to regulation is to be commended, requiring operators to identify and assess risks in a way that fosters innovation and continuous improvement in risk management" (see https://royalsociety.org/topics-policy/projects/shale-gas-extraction/report/).

[1] https://www.gov.uk/government/publications/regulatory-roadmap-onshore-oil-and-gas-exploration-in-the-uk-regulation-and-best-practice

"Meanwhile EU regulations do not provide sufficiently robust guidelines, instead relying heavily on self-monitoring by the oil and gas industry"

Monitoring data is submitted to and checked by the environmental regulator to ensure compliance with the environmental permit. Any breach of a permit condition or environmental legislation may result in enforcement action being taken against the operator. If required the environmental regulator may choose to undertake additional monitoring itself.

Additional groundwater monitoring is also being undertaken by the British Geological Survey (BGS) in Lancashire and the Vale of Pickering, where Cuadrilla and Third Energy, respectively, intend to hydraulically fracture. See

http://www.bgs.ac.uk/research/groundwater/shaleGas/monitoring/home.html

Paragraph 40

Water protections and the Infrastructure Act

Monitoring requirements after the decommissioning of the well will depend on the risks posed by the site, and assessed on a site-by-site basis. The surrender of the environmental permit is only possible after a site has been returned to satisfactory conditions.

Prior to the Infrastructure Act 2015, it was already the case that the Environment Agency (EA) and Natural Resources Wales (NRW) did not permit drilling for oil or gas in Source Protection Zones (SPZ) 1. In addition, EA and NRW will continue to refuse permit applications for drilling activities within SPZ 1, 2, 3 or wider areas if they consider that an activity poses an unacceptable risk to the environment.

SPZ 1 areas are those areas close to drinking water sources where there is the greatest risk associated with groundwater contamination.

Section 4A(1) of the Infrastructure Act 2015 prohibits associated hydraulic fracturing within 1,000 metres of the surface. In addition, the Act introduced a range of requirements if an operator is to carry out hydraulic fracturing, to provide the public with confidence that this industry is being taken forward safely. These include the assessment of environmental impacts, groundwater monitoring, community benefits and the exclusion of protected areas.

http://www.legislation.gov.uk/ukpga/2015/7/section/50

The protected areas in which hydraulic fracturing will be prohibited have been set out in the Onshore Hydraulic Fracturing (Protected Areas) Regulations 2016. These regulations ensure that the process of hydraulic fracturing cannot take place within 1,200 metres of the surface of National Parks, the Broads, Areas of Outstanding Natural Beauty (AONBs), World Heritage Sites and areas that are most vulnerable to groundwater pollution: protected groundwater source areas.

http://www.legislation.gov.uk/ukdsi/2015/9780111137932/pdfs/ukdsi_9780111137932_en.pdf

The Regulations define protected groundwater source areas as

"any land at the surface that is -

(a) within 50 metres of a point at the surface at which water is abstracted from underground strata and is used to supply water for domestic or food production purposes, or

(b) within or above a zone defined by a 50-day travel time for groundwater to reach a groundwater abstraction point that is used to supply water for domestic or food production purposes."

BEIS has consulted with the Environment Agency and NRW on the definition of "protected groundwater source areas", who are content for these areas to be aligned with Source Protection Zone 1. This will reinforce their regulatory approach, by being consistent with the approach taken to control the risks from other groundwater activities.

"While planning authorities are required to take account of the "environmental impact" of fracking developments, there is no explicit requirement for an environmental impact assessment"

Industry have committed to EIA for sites where hydraulic fracturing is planned: http://www.ukoog.org.uk/about-ukoog/press-releases/66-how-to-engage-with-shale-gas-hydraulic-fracturing-planning-and-permitting

In response to:

"And while the Health and Safety Executive must conduct visits to fracking wells, they need not be unannounced, nor are there requirements to conduct independent inspections of well integrity"

Independent inspections, health and safety regulations require information to be sent to HSE regarding the integrity of all onshore oil and gas wells and the report of the failure of any safety barrier within an oil or gas well to be reported to HSE. Operators would be given notice of most HSE inspections as this allows them to ensure that key personnel and information is available to inspectors. However, HSE inspectors have a right of entry to any workplace and so unannounced inspections will be conducted where necessary. Further independent inspections of oil and gas wells will be conducted by the independent well examiner, also required by health and safety legislation.

In response to "Finally there are no requirements to continue monitoring methane emissions after a site is decommissioned, or to conduct long-term monitoring of other gases"

Monitoring requirements after the decommissioning of the well will depend on the risks posed by the site, and assessed on a site-by-site basis. The surrender of the environmental permit is only possible after a site has been returned to satisfactory conditions.

Paragraph 41

"However, it may not have the capacity to continually apply such checks and it remains a concern that such information does not need to be disclosed when applying for planning permission."

Disclosure of chemicals:

The Environment Agency requires full disclosure of the chemicals used in fracking, and may prohibit the use of any substances found to pose an environmental risk. Chemicals are assessed as part of the environmental permit application process and a list of approved chemicals is publically available once the permit has been granted. The EA charges a fee to operators to apply for an environmental permit so that the EA can recover its costs and can increase its staffing to meet the regulatory demand of a growing industry.

The assessment of chemicals and the protection of groundwater falls within the regulatory remit of the Environment Agency. Operators are encouraged to send in applications for environmental permits and planning permission in parallel ('twin track'). The Environment Agency is a statutory consultee to the planning process. To date, environmental permits have been issued prior to the planning application being considered by the mineral planning authority.

EA Capacity:

The EA charges a fee to operators to apply for an environmental permit so that the EA can recover its costs and can increase its staffing to meet the regulatory demand of a growing industry.

Paragraph 42

In response to the DCLG SoS decision to overturn the Lancashire County Council decision to refuse planning permission: We would suggest deleting the paragraph and replacing it with the following:

With regard to Preston New Road site, the Secretary of State for Communities and Local Government considered appeals made to him under section 78 of the Town and County Planning Act against Lancashire County Council's decision to refuse planning permission for

shale exploration proposals at that site. Having considered the individual planning merits of the proposals and taken into account the findings, conclusions and recommendations of an

independent planning inspector who held a public inquiry into the proposals, the Secretary of State decided to grant planning permission.

Paragraph 44

In response to "In practice, however fragmented policymaking allows for loopholes, and the full extent of the impact on affected communities may not be adequately weighted in decision-making".

Our regulatory system uses existing regulators with long-standing experience of regulating different sectors in their area of specialisation. Because each regulator specialises in the aspects that they oversee, such as health and safety or the environment, they can bring to bear extensive knowledge and experience that they have gained from their work across multiple sectors.

To further improve public understanding of regulation, and increase collaboration between regulators, Government committed in its recent manifesto to developing a single environmental regulator. This will "provide clear governance and accountability, become a source of expertise, and allow decisions to be made fairly but swiftly".

Community engagement throughout the development of shale gas is vital. All planning applications for shale gas developments are subject to public consultation, where the local community has the opportunity to set out their views on the benefits and impacts of their proposals. The Mineral Planning Authorities (MPAs) will then consider whether the development proposal is acceptable at that particular location, after those views have been taken into account.

In addition to formal consultation with local communities, we are working with regulators to ensure that the public understand how the regulatory regime works, and with the industry to encourage effective engagement which addresses local communities' concerns.

Toxic landfill Sites

Paragraph 46

The 300,000 hectares refers to England & Wales only & is an Environment Agency estimate. It doesn't mean that all 300k hectares are affected as this implies. Actual wording from the EA report is: **we estimated that there might be around 300,000 hectares of land affected by industrial activity in England and Wales which may be contaminated**

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/313964/geho0109bpha-e-e.pdf

Paragraph 47

A number of Local Authorities in Wales took the opportunity to investigate former landfill sites as part of the initial Welsh Government Contaminated Land Capital Funding Programme.

As the funding has not been re-instated Local Authorities can once again look to address any problem sites if needed.

Believe the Welsh Audit Office has undertaken some work on former landfill sites and some Local Authorities have implemented their recommendations (Wrexham has set aside funding to deal with them).

Paragraph 50

The substantial legacy of radioactive waste in the UK is the result of historic practices in the development and implementation of nuclear power in the UK. For example, nearly three quarters of all UK radioactive waste is from Sellafield, Cumbria.

Paragraph 53

The NSIP amendment order was not a surprise. UK Government flagged it in the public consultation that led to the 2014 White Paper which was informed by the consultation. It also took into account lessons learned from previous siting process. It was voted on in Parliament with 35 MPs voting against the amendment order.

It also does not take into account the consent-based approach of working with willing communities over a long period of time before any planning application can be submitted.

Paragraph 54

The regulatory regime for the transport of radioactive material in the UK is based on internationally agreed standards published by the International Atomic Energy Agency, which have an exemplary safety record extending over 50 years and a billion consignments of radioactive material worldwide, and there has never been a transport incident that has caused a significant radiological hazard to people or the environment. These regulations apply a graded approach, which ensures that radiological consequences are limited, even in the event of a severe accident.

In the UK, all consignors and carriers of radioactive material are required to have emergency arrangements in place appropriate to the nature of the consignment, including its intended route and radiological hazard. In addition, for maritime transport, a graded approach is applied in respect of the capabilities of the vessel relevant to the hazard of the consignment, which for higher hazard consignments will include diverse, redundant and separate emergency systems, designed to ensure that any radiological emergency is managed effectively.

"[nuclear] waste is transported weekly over 400 miles from the decommissioned Dounreay civil nuclear reactor site in Scotland for treatment and storage in Sellafield".

This statement is factually incorrect – it is in fact nuclear ***material*** (and not 'waste') that is being transported to Sellafield. As this nuclear material (which is being transported mainly for security reasons) has a potential re-use capability, it is not classified by both the site and regulators as 'waste'. This is extremely important in terms of determining the competent authority responsible for this material - in this case, the competent authority is the UK government. In its current form the draft report wrongly implies that it is a matter for the Scottish Government and the Scottish Government is directing the NDA to transport radioactive waste from Dounreay to Sellafield.

The only nuclear wastes being transported over a great distance from the Dounreay site is the return of a very small quantity of internationally obligated wastes to their countries of origin. These are legacy wastes resulting from historical overseas reprocessing contracts, which the NDA are tasked with managing.

Information on the Dounreay to Sellafield nuclear material transportation programme can be found at: https://dounreay.com/about/decommissioning-projects/fuels/

We would also suggested the SR considers removing the word 'decommissioned' when referring to Dounreay, as the site is still some way (as in at least 15 years away) from being fully decommissioned.

Paragraph 64

Note that The Scottish Government and its partners are currently undertaking a period of engagement with business, trade unions and civil society organisations around the findings of the baseline assessment, which will inform the drafting of a NAP.

Paragraph 65

The Scottish Government notes:

This area, like many others that will emerge throughout the Brexit period, throws up potential for regulatory diversion. Scotland needs to ensure it takes a strategic approach to regulatory change and is consistent. Recommend that Business and Regulatory Impact Assessments (BRIAs) could be useful as a measure of impact of changes and also that the principles of Better Regulation could form the foundation for approach to considering changes and updates to any regulations. The five principles of better regulation are that regulation is proportionate, transparent, accountable, consistent and targeted only where necessary.

Paragraph 71

We suggest the following text should be added the end of the paragraph for context:

"Regulation (EU) 649/2012 on the export and Import of hazardous chemicals (known as the PIC Regulation) implements in the EU the UN Rotterdam Convention on the prior informed

consent procedure for certain hazardous chemicals and pesticides in international trade. The aim of the Convention is to promote shared responsibility and cooperation among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm and contribute to the environmentally sound use of chemicals.

Paraquat is not currently listed in the Rotterdam Convention and so exports are not subject to the prior informed consent procedure. The EU PIC Regulation, however, goes further than the provisions of the Convention and requires chemicals banned or severely restricted within the EU to have the explicit consent of the importing country before export can take place. On the basis of notifications by Syngenta received by HSE as the Designated National Authority for the EU PIC Regulation, export of paraquat by Syngenta outside the EU has been undertaken in accordance with EU legal requirements including obtaining explicit consent from the government of the importing country. This requirement is over and above what is required under the international Convention."

Paragraph 76

This paragraph in particular seems to be a general criticism of LASPO and not specific to toxic chemicals/pollution. Was that the intention? If not, may wish to revise to reflect any perceived effect LASPO has had on these matters.

The Amnesty International report focused on immigration, family and welfare benefits cases and not necessarily legal aid scope in its entirety.

Paragraph 79

The Legal Aid system in Scotland is undergoing a significant review which will result in simplifying the system.

Paragraph 82

In an example dating back to the 1980s, farmers and agricultural workers who believe they were affected by the use of organophosphate-based or "OP" pesticides in sheep dipping activities have faced severe difficulties in accessing an effective remedy. At the time, the United Kingdom Government ran a mandatory programme requiring farmers to chemically treat their sheep with pesticides to combat sheep scab. Most farmers used organophosphate-based dips to comply, as they were the only licensed products available initially. Organophosphate compounds were initially developed as neurotoxic chemical warfare agents due to their ability to inhibit blood cholinesterase activity.[11]

We would suggest adding this to the end of the paragraph

"Subsequent advancements in pharmaceutical technology aided the development of progressively less toxic OP molecules, which show greater selectivity towards insect (as opposed to human) cholinesterases and have been widely used for their pesticide activity in crop protection products and veterinary medicines for many years."

Paragraph 83

Over the next two decades, farmers reported a range of debilitating health problems which they believed to be the result of poisoning from the organophosphate-based products, with symptoms including nausea, anxiety, pulmonary oedema and long-term neurological damage. Victim support groups compiled a list of more than 500 farmers believed to have suffered from ill health as a result of their exposure, although campaigners claim the real number to run in the thousands. Victims struggled to access appropriate treatment under the public health regime, as organophosphate poisoning was not considered to be a medical condition. Some were allegedly wrongly diagnosed as suffering from psychological issues and given medications that exacerbated their suffering. A number of individuals who were medically tested by the Government claim they experienced serious difficulties in obtaining the release of their

[11] The programme was halted in 1992.

medical records.[42] The difficulty in establishing causation between chronic ill health and the use of organophosphate-based pesticides has seen many legal claims fail.

Addition:

Approximately half of these reports relate only to short term symptoms (eg dipper's flu) and in many reports the recommended safety precautions were not observed. (suggest adding this to the end of the second sentence).

"Victim support groups compiled a list of more than 500 farmers believed to suffer from ill health as a result of exposure to OPs, although campaigners claim the real number to have run in the thousands."

Note - There is no definitive data to say how many people consider that they have suffered long term effects.

The most comprehensive list of patients known to the Government is held by the Veterinary Medicine Directorate who collect and analyse reports of adverse effects in animals, humans or the environment following use of veterinary medicines. In total they have received just under 700 reports relating to adverse effects in humans following use of OP sheep dips, however approximately half of these reports relate only to short term symptoms (eg dipper's flu) and in many reports the recommended safety precautions were not observed.

"Victims struggled to access appropriate treatment under the public health regime, as OP poisoning was not considered a medical condition. Some were allegedly wrongly diagnosed as suffering from psychological issues and given medications that exacerbated their suffering."

Note - Although there is little that the Government of today can do to address any historical cases of medical misdiagnosis or treatment on behalf of individuals, at a meeting with a group of these patients held in November 2015, government officials agreed to liaise with colleagues from other departments to determine what sate benefits these patients were entitled to apply for. This information was provided in April 2016.

As it is a matter of debate between the individual and their Doctor about diagnoses, shouldn't this state that they believe medication exacerbated their condition?

"A number of individuals who were medically tested by the Government claim they experienced serious difficulties in obtaining the release of their medical records.[43]"

Note - Following the same meeting with the group of patients, government officials liaised with the hospital concerned to determine what information was still held and how the patients could gain access to their records at little or no expense. These enquiries also revealed that the referring physicians had been informed of the test results at the time, thus explaining why a lot of the raw data had not been retained. Although it was not possible to investigate the apparent loss of medical records from numerous clinics across the country, several boxes of patient records relating to these government-funded studies were unearthed from the archives at the hospital where they had been conducted. The relevant patient groups were informed of this discovery when the detailed advice for gaining access to medical records was published.

"The difficulty in establishing causation between chronic ill health and the use of OP chemicals has seen many legal claims fail."

Note - as illustrated above, it should be noted that over the past few decades the Government has invested a considerable amount of time and public money to better understand all the potential risks when using these compounds and determine how they can be minimized. Over the years this research has resulted in incremental improvements to OP dip packaging and the safety advice provided to the user within each pack, thereby ensuring that the warnings always reflect the available knowledge at the time.

We would suggest adding this to the end of the second sentence:

[42] In the year and a half preceding the time of writing, 20 documents were released with the help of the Department for Environment, Food and Rural Affairs. They contain medical results, but not the names linked to them.

"However approximately half of these reports relate only to short term symptoms (eg dipper's flu) and in many reports the recommended safety precautions were not observed."

Paragraph 84

Current:

In 2015, an internal report of the Health and Safety Executive of May 1991 was released under a freedom of information request, which established that government officials had warned of the dangers of exposure to organophosphate-based pesticides. Yet in the same month, the Minister of Farming demanded that local authorities clamp down on farmers who refused to use the chemical. The release of the internal report triggered calls by more than a dozen Members of Parliament for an inquiry and public debate into whether farmers were misled over the use of organophosphate-based pesticides.

Amended: (bolded and underlined for ease):

In 2015, an internal report of the Health and Safety Executive of May 1991 was released under a freedom of information request, which established that government officials had warned of the dangers of **repeated** exposure to organophosphate-based pesticides **within a short timeframe**. Yet in the same month, the Minister of Farming demanded that local authorities clamp down on farmers who refused to use the chemical. The release of the internal report triggered calls by more than a dozen Members of Parliament for an inquiry and public debate into whether farmers were misled over the use of organophosphate-based pesticides.

Paragraph 86

"One particular independent study, which reviewed the available evidence concerning the neurotoxicity of low-level occupational exposure to OPs, found that 13 out of 16 studies showed evidence of neurological problems following long-term, low-level exposure to OPs."[45]

Note - This study was included and considered by the COT for the 2014 statement and was also separately reviewed by independent experts when it was completed and separately by the Veterinary Products Committee's Medical and Scientific Panel. All of these independent expert groups concluded the weakness of the study design allows no meaningful conclusions about the relation of organophosphates to common mental disorders.